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CS403 MCQs+Short + Improtant Topic BY Junaid

Database Management Systems (Virtual University of Pakistan)

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DATA BASE MANAGEMENT

CS403

CS403 MCQs and Important Question and also Important Topic for Final

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All MCQS are Correct If u found than correct by yourself

1. Hash partitioning is applied on-------
   - Rows GOOGLE
   - Columns
   - Constrains
   - Attributes

1. At which stage of database development process, the schema rules are defined and indentified?
   - Mapping of conceptual model to the logical model pg54
   - Analyzing user requirements
   - Development of the conceptual
   - Development of the physical design

2. Which of the following is INCORRECT about “Materialized Views”? rep
   - There are suitable in “Data warehouses”.
   - These are schema object which can be use to summaries the data
   - They cannot be partitioned Pg290
   - Their existence is transparent to SQL applications and users

3. Identify the incorrect statement among the given rep
   - An entity may be an object with physical existences like a car.
   - Age can be considered as a single values attributes of a person
   - The attribute Data_of_birth can be considered as a derived attribute
   - Skill is a multivalve attribute

4. ------ is used to manage the database and its Users
   - DBMS pg11
   - File processing system
   - DFD
   - Cross reference matrix

5. A student has five courses at max registered in a semester and there are many student as well in a course .Student and entities have-----cardinality
   - One to One
   - One to Many

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- Many to One
- Many to Many Pg94

6. Attributes on which we do not need to access the unique instances of an entity type is called.
   - Primary key
   - Secondary key pg84
   - Alternate key
   - Foreign key
7. In which of the following situations, Clustering is suitable.rep
   - Frequently up dating
   - Relatively static pg 192
   - Frequently deletion
   - Relatively dynamic
8. ----- is not a feature of hash access REP
   - Indexes to search or maintain
   - Very fast direct access
   - Inefficient sequential access
   - Use when direct access in needed ,but sequential access is not

   Ye sare hash feature hai to VU walo ne ye MCQS wrong diya h to correct ansewer D hi hoga Phir

9. Minimal super key can also be named as
   - Candidate key pg82
   - Alternate key
   - Foreign key
   - Secondary key
10. Which of the following command shows from PRODUCT-VIEW rep
    - SELECT*FROM PRODUCT-VIEW
    - SELECT PRODUCT-VIEW
    - SHOW ALL PRODUCT-VIEW
    - PRODUCT-VIEW SELECT

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11. **If W,X,Y and Z are attributes of a relation, which of the following inference rules for functional dependencies is correct?**
    - If(X,Z)->Y then X->Y and Z-> Y
    - If X->Y and X->Z then X-> Y,Z
12. While recovering data, which of the following files does a recovery manager examines at first?
    - A system file
    - Log file pg303
    - Data dictionary
    - Metadata
13. The purpose of--- is to maintain the consistency of database during concurrent access.REP
    - Outer join
    - Inner join
    - Clustered index
    - Concurrency control pg310
14. Which of the following is the correct syntax for SELECT statement rep
    - SELECT column-name (s) FROM table name 212
    - SELECT FROM table-name column-name
    - FROM SELECT column-name table –name
    - FROM table-name SELECT column-name
15. -------- must identify a records in the table, uniquely REP
    - Hash Algorithm
    - Key pg260
    - SQL Statement
    - Index
16. ---- is an example of volatile memory REP
    - RAM
    - ROM
    - Flash memory
    - CPU

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17. **A perfect hash function map a key to distinct location having search time _____.**
    - **O(1) pg266**
    - O(n)
    - O(n+1)
    - O(n-1)
18. A super key for which no subset is a super key is called---
    - Candidate key pg82
    - Primary key
    - Super key
    - Secondary key
19. Which of the following specifies the tables, which we access in the query REP
    - SELECT Clause pg212
    - FROM Clause
    - WHERE Clause
    - ORDER BY Clause
20. Which of the following statement is not true
    - Any super-type linked entity are also inherited to subtype entities
    - Relationship between subtype defines the existence of a super type in a sub type entity
    - Disjointness constrain defines the existence of a super entity
    - We never identify of sub-type subtype on the basis of general knowledge
21. Which of the following gives all the fields from employee table named as EMP?REP
    - Select *from EMP
22. To read a database object, it is first brought into----- from disk, and then its values is copied into a program into a program variable rep
    - Main Memory pg249
    - Flash Memory

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- state hard disk
- solid state hard disk

23. CLUSTERED indexes is created automatically when we create---REP
- ERD
- Database
- Cross Reference Matrix
- Primary key pg276

24.Wait-for graph is maintained by---
- **Lock manager pg300**
- Index Manager
- View Manager
- Constraint Manager

25.Which of the following is NOT a feature of a good interface?
- Consistency
- Process based
- Data structure based
- User friendly

26.Which of the following SQL keywords is not used with DDL statements?
- Table
- Update
- Create
- Alter

27.Which of the following is not a type of VIEWS?
- Materialized View
- Simple Views
- Complex View
- **Cross Reference View 283**

28. Which of the following is the correct way of removing the Index called branchNoIndex?
- **DROP INDEX branchNoIndex;**
- APPEND INDEX branchNoIndex;
- REMOVE INDEX branchNoIndex;
- DEL INDEX branchNoIndex;

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29. **Which of the following is incorrect about Database transaction** REP
    - **It can only end in one way which is roll back**
    - **It must preserve the consistency of the database**
    - **It must follow the ACID properties**
    - **It is seen by the DBMS as a list of action 291**
30. Which of the following commands is used to TRUNCATE the table named STUDENT?
    - **TRUNCATE TABLE STUDENT**
    - TABLE TRUNCATE STUDENT
    - TABLE STUDENT TRUNCATE
    - STUDENT TABLE TRUNCATE

31. Which of the following is not a feature of effective interface?
    - Effective interfaces can require more work to implement
    - An effective user interface minimizes the time users require to learn and implement the system
    - It helps users to accomplish their tasks and otherwise gets out of the way
    - **An effective interface imposes its requirements on users pg239**
32. Which of the following stores the textual data"?rep
    - Tidyint
    - Smallint
    - Biggint
    - Varchar 197
33. _____ is used to read, write, and remove the data from a database
    - **SQL pg196**
    - ERD
    - ANSI
    - Data Model
34. Which of the following is not related with Browser based forms development?
    - HTML
    - ASP

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- Front Page
- Dev C pg241

35. Which of the following is not a DDL Command?REP

- Create table
- Alter table
- Insert into
- Create database

36. Which of the following SQL command will DROP a view named STUDENT rep

- DROP VIEW STUDENT I think
- DROP FROM STUDENT VIEW
- DELETE STUDENT FROM VIEW
- DELETE ALL STUDENT VIEW

37. Data sharing in database avoids

- Data duplication I think
- Data independence
- Data Manipulation
- Data integrity

38. Which of the following is used to add or drop columns in an existing table?

- ALTER pg207
- HAVING
- SELECT
- THEN

39. Which of the following is not a form of optical disk?REP

- CD ROM
- WORM
- Erasable Optical
- EEPROM pg257

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40. "Select * from STUDENT, DEPARTMENT" is an example of.REP
    - Cartesian Join
    - Inner Join
    - Outer Join
    - Full Outer Join CONFIRM

41. AS a general rule, which external entity of DFD cannot appear as an entity type in ERD?
    - An entity with many instances
    - A super-type entity
    - A subtypes entity
    - An entity type for which instance is single

42. Dead Lock can be prevented by giving each transaction a _____.
    - Name
    - Clustered Index
    - Cartesian Join
    - **Priority pg299**

43. ------ is not the responsibility of DBMS
    - Support for data communication
    - Integrity service
    - Data processing
    - Grant of access right

44. Vertical partitioning is done on the basis of REP
    - Attributes pg191
    - Rows
    - Clustering
    - Replication

45. Attributes that jointly make a composite attributes are called ---- of that attributes
    - Entity 191
    - Instance
    - Domain

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- Components

46.Which of the following is true about foreign key?

- Foreign key should not be from the same domain as is the primary key
- Foreign key and primary key name must be same
- There can be one foreign key in a tables/relation
- Home relation of foreign key attribute is the one .which is present as primary in another relation

47.SQL ----- standard computer language

- ANSI ph191

48. Which of the following is true about the views? REP

- View can only show few attributes of a table
- View cannot be used for retrieving data
- View cannot be used as security mechanisms
- **We can customize the order of the table fields through Views GOOGLE**

49.In which type of relationship, PK of the same entity type can be used as FK

- One –to- Many pg124
- One –to- ONE
- Many –to-one
- Many –to-many

50. A file with _____ records, with sequential access file, an average of _____ key comparisons are necessary.

- 10000, 5500
- **10000, 5000 GOOGLE**
- 10000, 4500
- 10000, 500

51. Which of the following SQL Function does not use input parameter?

- LOWER
- UPPER
- LEN
- **CURRENT_TIME pg121**

52.Which of the following feature provides more data reliability in a DBMS?

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- Data sharing
- Controlled redundancy
- Better data integrity pg16
- Concurrency

53. After execution of "commit" statement, _____ is updated first.
    - **Database Buffer pg303**
    - Clustered-Index
    - Non-Clustered Index
    - Application Program

54. Identify the command to remove from the table
    - DROP GOOGLE
    - INSERT
    - UPDATA
    - DELETE

55. Which of the following is not one of the properties of Transaction?
    - Atomicity
    - Consistency
    - Redundancy pg294
    - Durability

56. Which of the following is not a type of user interface?
    - Graphical User Interface (GUI)
    - Forms
    - **Database Schema pg240**
    - Text based Interface

57. Which of the following operation allows certain selections and Cartesian product into one operation?
    - Join pg157
    - Select
    - Project
    - Union

58. Which of the following is not true about relational tables?

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- Column values are of the same kind.
- Each row is unique.
- Each column must have a unique name.
- The sequence of rows is significant.

59.Locking is maintained by----- REP

- End use
- Form designer
- Lock manager pg315
- User interface

60. Which of the following is not correct about input forms?

- Provide an easy, effective, efficient way to enter data into a table
- Especially useful when the person entering the data is not familiar with the inner workings
- Provide different controls to add data into the tables
- **One input forms can populate one table at a time pg246**

61. If D --> E, F then D --> E and D --> F.

- This inference rules is called as _____.
- Transitivity pg166
- Additive
- projectivity
- Augmentation

62.To access a files ABC sequential files access involves too much ---- as compared to direct files access

- Time, space and number of files
- Number of files
- Space
- Time pg261

63. _____ is used to detect the dead lock. REP

- **Wait-for graph pg320**
- Cross Reference Matrix
- Inner Join
- Clustered Index

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64. _____ is a control that presents a set of choices from which a user can select one or more items; REP
- Items can be text, graphics, or both.
- **Button Google**
- List box
- Text input

65. Which of the following statements creates a database named COMPANY. REP
- CREATE DATABASE company google
- CREATE DB company
- ADD DATABASE company
- CREATE company DATABASE

66. The main memory of a computer system is also known as REP
- ROM
- RAM pg256
- PROM
- Hard disk

67. Which of the following is not a DDL Command?
- Create table
- Alter table
- **Insert into Google**
- Create database

68. How we CANNOT determine the cardinalities of a system
- By interviewing the user
- Through analysis of the organization
- Using the system requirement
- Creating by ourselves pg92

69. ----- is used to access and manipulate data
- DDL
- DML pg200
- DCL
- ERD

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70. Which of the following is incorrect regarding Indexes? REP
- **It cannot be created on composite attributes. Pg273**
- Index can be defined even when there is no data in the table.
- It supports Range selections.
- It can be created using 'Create Index' statement

71. A relation (from the relational database model) consists of a set of tuples, which implies that Relational model supports multi-valued attributes whose values can be represented in sets.
- for any two tuples, the values associated with all of their attributes may be the same.
- for any two tuples, the values associated with one or more of their attributes must differ. google
- all tuples in a particular relation may have different attributes.

72. Which of the following is not correct Regarding VIEWS
- VIEWS can be used to interact with database
- Through view user can focus on their interested data
- View can show one or more records from a database
- View cannot be update pg280

73. Database System" is the combination of_____.
- **Database and DBMS pg11**
- Database and Data
- Data and Information
- Operating System and Database

74. If A -> B then AC -->BC
- This inference rules is called as _____.
- Transitivity
- Additive
- Augmentation pg166

75. On magnetic media, data is stored in _____
- Text
- Images
- **Binary format pg240**
- Tables

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76. Which of the following tells us that the link between two relation is compulsory or optional
- Minimum cardinality pg91
- Maximum cardinality
- Existence dependency
- Referential dependency

77. Which of the following is NOT a part of Deadlock Resolution?
- Choose a victim
- A message is passed to the victim and depending on the system the transaction may or may not be
- started again automatically.
- **Picking a list of all previously completed transactions and undoing all the updates. page323**
- Rollback `victim' transaction and restart it.

78. Which of the following is one of the purposes of using DML commands?
REP
- Creating databases
- Destroying databases
- Inserting data in tables page208
- Non of the above

79. Dead Lock can be prevented by giving each transaction a _____.
- Name
- Clustered Index
- Cartesian Join
- **Priority pg299**

80. Partitions may become unbalanced in:
- Range partitioning page189
- Hash partitioning
- List partitioning
- Vertical partitioning

81. A Table can have _____ clustered index (es).

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- **Only one page275**
- Only two
- More than two
- Only three

82. Which of the following is a feature of foreign key constrain
    - Used to enforce referential integrity
    - Limit the no of values that can be placed in a column
    - Enforces that the column will not accept null values
    - Enforces the uniqueness of the values in a set of column

83. _____ is used to sort the result set in ascending or descending order
    - Group by Clause
    - From Clause
    - Where Clause
    - **Order by Clause pg220**

84. How super type properties can be transferred in sub types automatically
    - Inheritance GOOGLR
    - Abstraction
    - Encapsulation
    - Through DFD

85. Which of the following is a correct way of selecting all the columns from a table called PERSONS?
    - SELECT FROM * Persons
    - SELECT * FROM Persons pg216
    - SELECT * WHERE Persons
    - SELECT WHERE * Persons

86. _____ is disadvantage of chaining technique to handle the collisions.
    - Unlimited Number of elements
    - Fast re-hashing
    - **Overhead of multiple linked lists Google**
    - Maximum number of elements must be known

87. Which of the following is not a type of VIEWS?

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- Materialized View
- Simple Views
- Complex View
- **Cross Reference View pg283**

88. ---------- is not an operation of relational algebra
- Addition pg147
- Union
- Cartesian product
- Set difference

89. Consider two sets A and B. A contains 2 elements and B contains 3. How many elements do their
- Cartesian product contains?
- **6 Google**
- 9
- 4
- 5

90. Which of the following types of partitioning reduces the chances of unbalanced partitions?
- Vertical
- List
- Hash page 189
- Range

91. Suppose there are 5 rows and 4 columns in TABLE1 and 6 rows and 7 columns in TABLE2; what isthe size of the Cartesian product incase of CROSS JOIN between these two tables?
- **30 Google**
- 35
- 24
- 28

92. Attributes on which we do not need to access the unique instances of an entity type is called.
- Primary key
- Secondary I think
- AlterNet key

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- Foreign key

93. Which of the following is not the component of relational data model
    - Integrity constraint
    - Manipulation language GOOGLe
    - Relation /table
    - Domain constraint
94. To make a change in traditional file processing system was difficult due to .
    - Independent program and data
    - Program and data interdependence
    - Slow system performance
    - Lack of computer knowledge
95. DFD and CRM help to identify the
    - Attribute
    - Entity type
    - Data model
    - Database
96. ------- Record data by burning microscopic holes in the surface of the disk with a laser
    - Hard disk
    - RAM
    - Optical disk pg257
    - Floppy disk
97. A patient can only be an indoor or an outdoor patient , what do you conclude about patient entity from above statement
    - Complete disjoint
    - Total completeness pg107
    - Partial disjoint
    - Partial overlapping
98. If in a relational R, all non key attributes are fully functionally dependent on key attributes .the relation R is in------
    - 2NF pg167
    - 3NF
    - BCNF
    - Higher NF
99. ------ Is an example of non-volatile memory

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- SRAM
- Cache memory
- Flash memory GOOGLe
- DRAM

100. If a relation contains single Key, the relation is automatically in _____.
- 1NF
- **2NF 169**
- 3NF
- 4NF

101. Which of the following is true about a relation?
- We cannot determine the degree of a relation
- A relation is subset of a Cartesian product pg129
- A relation is a three dimensional arrangement
- A relation can only have a limited number of records

102. The following sentence is incorrect about sub-query
- A sub query must be enclosed in the parenthesis
- A sub query must be put in the left hand of the comparison operator
- A sub query cannot contain order-by clause
- A query can contain more than one sub queries

103. Suppose there are 7 rows and 4 columns in TABLE1 and 5 rows and 3 columns in TABLE2; what is the size of the Cartesian product incase of CROSS JOIN between these two tables?
- 35 Google
-
- 18
- 21

104. What is the impact of setting multiple indexes for the same key?
- Multiple indexes for the same key cannot be set
- **It increases efficiency Google**
- It decreases efficiency

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- It will increase complexity as the access time will be increased

105. In DFD collector shows the---- of data to a single point
- Divergence
- Convergence page 58
- Subtraction
- Separation

106. Three level schema Architecture allows us to separate the physical representation of data from the
- System view
- User view
- Database view
- Architecture view

107. We can apply union operation on relational only if
- They have the same names
- They do not have same domains of corresponding attributes
- They do not have same number of attributes
- They have same degree

108. In which type of join rows are joined on the basis of a common attributes
- Equi –join
- Theta join
- Left outer join
- Right outer join

109. The select the range while creating indexes ,the operator that is not used that is not used is----
- Equals to(==)
- Less than(<)
- And (&&)
- Between

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110. Which of the following is the correct way to find out the size of Cartesian product in case of CROSS JOIN?

- The number of columns in the first table multiplied by the number of columns in the second table.
- The number of columns in the first table multiplied by the number of rows in the second table.
- The number of rows in the first table multiplied by the number of columns in the first table.
- the number of rows in the first table multiplied by the number of rows in the second Table. Google

111. DBMS and operating system both are example of

- Hardware Google
- Software
- Database
- File processing system

112. Which of the following is NOT a feature of a good interface?

- Consistency
- Process based
- Data structure based Conceptual
- User friendly

113. Purpose of normalization is to

- Produce redundancy
- Create insertion problem
- Make maintence difficult
- Remove all kind of anomalies GOOGLE

114. Which of following is NOT generally the aim of data partitioning and placement of data?

- Reduce Workload
- Balance Workload
- Merging different relations Google

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- Speed up rate of useful works.

115. Which of the following is the activity which is not performed during the development of application programs

- Data input programs
- Editing
- Display
- Data collection pg238

116. Permanent structure of the database is also called

- Impression of the database
- Extension of the database pg34
- Expansion of the database
- Intension of the database

117. Data is also called

- Organized facts
- Raw facts GOOGLE and Conceptual
- Information
- Processed facts

118. Controlling redundancy in database does not help to?

- Avoid data duplication page16 Conceptual
- Avoid unnecessary wastage of storage space
- Avoid unauthorized access to data
- Avoid data inconsistency

119. Which of the following feature allow many user to users to use a DBMS at the same time

- Robustness
- Concurrency
- Scalability
- Efficiency

120. A DBMS which perform all necessary associated to a database is a collection of

- Steps

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- Programs
- Files
- Processes

121. Which of the following is not an operation of relational algebra
- Union
- Reminder Confirmed
- Cartesian product
- Set different

122. Which of the following is not the property of Transaction?
- Atomicity
- Consistency
- **Redundancy**
- Durability

123. Which of the following is created by Database Management system for its usage
- Integrated Data Dictionary Confirm
- Free standing data dictionary
- Cross reference matrix
- Weak entity

124. Basic building block of relational data model
- Manipulation language
- Row
- Table
- Cartesian product

125. Major drawback of traditional file processing system is
- Sharing data
- Congestion control
- Data inconsistency
- Concurrency

126. **Identify the language which is used to specify database scheme. (Page 199)**

DDL

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It is used to specify a database scheme as a set of definitions expressed in a DDL. DDL statements are compiled, resulting in a set of tables stored in a special file called

127. **Which of the following SQL statement used to control access to the data in the database? (page 200)**

GRANT and REVOKE

The category of SQL statements that control access to the data and to the database. Examples are the GRANT and REVOKE statements.

128. **Grant Command belong to which type of classification?**

DCL **(GOOGLE)**

129. **Which of the following is one of the purposes of using DDL commands? (page 196)**

Create and Destroying database

Rules of SQL Format

SQL, at its simplest, is a basic language that allows you to "talk" to a database and extract useful information. With SQL, you may read, write, and remove information from a database. SQL commands can be divided into two main sub languages. The Data Definition Language (DDL) contains the commands used to create and destroy databases and database objects. After the database structure is defined with DDL, database administrators and users can utilize the Data Manipulation Language to insert, retrieve and modify the data contained within it. Following are the rules for writing the commands in SQL:-

130. **The _____ Operator allows to use wild cards in the where clause of an SQL statement. (Page 218)**

LIKE

The LIKE operator allows you to use wildcards in the where clause of an SQL statement. This allows you to perform pattern matching. The LIKE condition can be used in any valid SQL statement - select, insert, update, or delete.

131. **In SQL which command is used to delete rows from Table. (Page 234)**

DELETE

DELETE: The right to delete rows from the table named as object.

132. **Which of the following function falls in the category of Aggregate function? (Page 222)**

All of the above

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Aggregate function can be a function such as SUM, COUNT, MIN or MAX

133. **The _____ condition use to retrieve values within a specific range. (Page 217)**

BETWEEN

The BETWEEN condition allows you to retrieve values within a specific range.

134. **The _____ Function helps to reduce the need of Multiple OR condition. (Page 218)**

IN

The IN function helps reduce the need to use multiple OR conditions. It is sued to check in a list of values. The syntax for the IN function is:

135. **Objective of an order by clause is to display or arrange output of a select statement in a particular order. (Page 220)**

YES

ORDER BY Clause

The ORDER BY clause allows you to sort the records in your result set. The ORDER BY clause can only be used in SELECT statements. The ORDER BY clause sorts the result set based on the columns specified. If the ASC or DESC value is omitted, the system assumed ascending order. We will now see few examples of this clause

136. **DBMS stand for_____**

DATABASE MANAGEMENT SYSTEM

137. **Which of the following is used to filter rows according to some condition? (Page 215)**

WHERE

The WHERE clause allows you to filter the results from an SQL statement - select, insert, update, or delete statement. The rows which satisfy the condition in the where clause are selected. The format of WHERE clause is as under:

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138. **Which of the following is incorrect about alter table statement?**
Cannot be used to modify type or size of an existing column **(GOOGLE)**

139. **Which is not the function of Database Management System?**
Failaiour Response Service **(GOOGLE)**

140. **Which of the following is a string function in SQL? (Page 221)**
LEN

- Mathematical (ABS, ROUND, SIN, SQRT)
- String (LOWER, UPPER, SUBSTRING, LEN)
- Date (DATEDIFF, DATEPART, GETDATE ())
- System (USER, DATALENGTH, HOST_NAME)
- Conversion (CAST, CONVERT)

141. **Which of the following is a Date function in SQL? (Page 221)**
DATEPART

- Mathematical (ABS, ROUND, SIN, SQRT)
- String (LOWER, UPPER, SUBSTRING, LEN)
- Date (DATEDIFF, DATEPART, GETDATE ())
- System (USER, DATALENGTH, HOST_NAME)
- Conversion (CAST, CONVERT)

142. **Which of the following is a Conversion function in SQL? (Page 221)**
CAST

- Mathematical (ABS, ROUND, SIN, SQRT)
- String (LOWER, UPPER, SUBSTRING, LEN)
- Date (DATEDIFF, DATEPART, GETDATE ())
- System (USER, DATALENGTH, HOST_NAME)
- Conversion (CAST, CONVERT)

143. **Which of the following is a System function in SQL? (Page 221)**
HOST_NAME

- Mathematical (ABS, ROUND, SIN, SQRT)
- String (LOWER, UPPER, SUBSTRING, LEN)
- Date (DATEDIFF, DATEPART, GETDATE ())
- System (USER, DATALENGTH, HOST_NAME)
- Conversion (CAST, CONVERT)

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144. **Which of the following is not an aggregate function? (Page 222)**

UPPER

Function	Usage
AVG(expression) expression	Computes average value of a column by the
COUNT(expression)	Counts the rows defined by the expression
COUNT(*)	Counts all rows in the specified table or view
MIN(expression) expression	Finds the minimum value in a column by the
MAX(expression) expression	Finds the maximum value in a column by the
SUM(expression)	Computes the sum of column values by the expression

145. **Which of the following SQL clauses used to start the records in result set? (Page 219)**

ORDER BY

The ORDER BY clause allows you to sort the records in your result set. The ORDER BY clause can only be used in SELECT statements.

146. **The ORDER BY clause can only be used in _____ statements. (Page 219)**

SELECT

The ORDER BY clause allows you to sort the records in your result set. The ORDER BY clause can only be used in SELECT statements.

147. **SQL is used for**

All of the above

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148. **Which of the following function falls in the category of aggregate function? (Page 222)**

All of the above

Function	Usage
AVG(expression)	Computes average value of a column by the expression
COUNT(expression)	Counts the rows defined by the expression
COUNT(*)	Counts all rows in the specified table or view
MIN(expression)	Finds the minimum value in a column by the expression
MAX(expression)	Finds the maximum value in a column by the expression
SUM(expression)	Computes the sum of column values by the expression

149. **Which of the following is the correct SQL statement for creating table in Microsoft SQL server?**

CREAT TABLE Customer
(SID integer PRIMARY KEY.
Last_Name varchar (30)

150. **DML does not used to**

Alter a Table definition **(GOOGLE)**

151. **UPDATE command belong to which type of classification?**

DML **(GOOGLE)**

152. **DDL stand For**

DATA DEFINITION LANGUGE

DDL

It deals with the structure of database.The DDL (Data Definition Language) allows specification of not only a set of relations, but also the following information for each relation:

153. **Which of the following is incorrect about alter table statement? (Page 207)**

Cannot be used to modify type or size of an existing column

Using the ALTER TABLE statement, we can alter an existing table in several ways. We can:

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154. **Which of the following is used to retrieve and insert information from database? (Page 196)**

DML



database administrators and users can utilize the Data Manipulation Language to insert, retrieve and modify the data contained within it. Following are the rules for writing the commands in SQL:-

155. **Which of the following statement creates a database named IMDB? (Page 202)**

CREATE DATABASE IMDB **(Google)** **(PLZ be correct by yourself)**

is given for a disk-based table, the table will be pre-allocated to IMB. If no filegrowth is given, the default is 50%. It is used to create new tables, fields, views and indexes. It is used to create database. The format of statement is as under:
CREATE DATABASE db_name

156. **Which of the following is a correct way of selecting all the columns from a table called PERSONS?**

SELECT * FROM PERSON **(GOOGLE)** **Different website se dekha same answer**

157. **Which of the following is the correct syntax for adding a new column into an existing table.**

ALTER TABLE table_name{
ADD[COLUMN]column type [(size)][DEFAULT default}]}

158. **Identify the basic(s) of a SELECT statement. (Page 211)**

Both SELECT and FROM

SELECT keyword. The basic SELECT statement has 3 clauses:

- SELECT
- FROM
- WHERE

159. **The conceptual database design can be transformed into any _____. (page 125)**

DATA MODEL

160. Making a change to the conceptual schema of a database but not affecting the existing external schemas is an example of

- ► Physical data independence.
- ► Concurrency control.

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► **Logical data independence.**
► Functional dependency

161. GRANT SELECT, UPDATE(Designation) ON Employee TO Amali,Hiruni WITH GRANT PTION;

What does this SQL statement do?

► Grant permission to Amali,only to retrieve data from Employee table and grant permission to Hiruni, only to update the designation from Employee table.

► Grant permission to Hiruni in order to grant, select and update permission to Amali.

► **Grant permission to Amali & Hiruni to update designation of employees in the Employee table.**

► Grant permission to Amali and Hiruni to update all data except designation in Employee table.

162. Which key word is available in SQL to enforce referential integrity?

► **Check**
► Primary Key
► Set Default
► Unique

163. Which of the following statements are Data Definition Language command?

► INSERT
► UPDATE
► GRANT
► **TRUNCATE**

164. How many clustered index(es) do each database table have?

► 2
► 3
► 5
► **1**

165. Which of the following is true about DELETE command?

► is DDL Command.
► Resets identity of the table.
► cannot activate a trigger.
► **Can be Rolled back.**

166. Which of the following will be deleted relating to a table if you use TRUNCATE command?

► **all rows in a table**
► indexes

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► table structure and its columns
► constraints

167. Which of the following is not a feature of TRANSACTION?

► Users should be able to regard the execution of each transaction as atomic.
► Each transaction, run by itself.
► must preserve the consistency of the database
► **dependant on other concurrent transactions**

168. Which of the following gives all the fields from employee table named as EMP?

► **select * from EMP;**
► select emp* from EMP'
► select emp_id where EMP;
► select * where EMP;

169. Suppose there are 4 fields in a table named CUST (customer_id, first_name, last_name, phone). Which of the following gives all the information of the customers in the table whose last name is ALI?

► **SELECT * FROM CUST WHERE last_name='ALI';**
► SELECT * FROM CUST WHERE last_name=ALI;
► SELECT * FROM CUSTOMER WHERE name=ALI;
► SELECT * FROM CUSTOMER WHERE last_name=ALI;

170. Identify the correct statement with respect to normalization.

► Normalization is a formal technique that can be used only at the starting phase of the database design.
► Normalization can be used as a top-down standalone database design technique.
► The process of normalization through decomposition must achieve the lossless join property at any cost whereas the dependency reservation property is sometimes sacrificed.
► **The process of normalization through decomposition must achieve the dependency reservation property at any cost whereas the lossless join property is sometimes sacrificed.**

171. Which of the following is not true with respect to denormalization?

► A denormalized data model is not the same as a data model that has not been normalized
► **Denormalization takes place before the normalization process**
► It is an attempt to optimize the performance of database
► Denormalization process can not be initiated before the Database design

172. Which of the following is incorrect with respect to indexed sequential files?

► New records are added to an overflow file
► Record in main file that precedes it is updated to contain a pointer to the new record

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► The overflow is merged with the main file during a batch update
► **Multiple indexes for the same key field cannot be setup**

173. Which of the following types of partitioning reduces the chances of unbalanced partitions?

► vertical
► List
► **Hash**
► Range

174. Which of the following is INCORRECT with respect to file systems?

► **At the physical level, pointer or hashed address scheme may be employed to provide a certain degree of data independence at the user level.**
► A logical record is concerned with efficient storage of information in the secondary storage devices.
► Some physical organisations use pointers to record blocks to locate records on disk.
► The efficiency of a file system depends on how efficiently operations such as retrieve, insert, update, delete may be performed on the information stored in the file.

175. which of the following is correct regarding Dataflow diagram?

► **Single DFD is required to represent a system**
► The dataflow must be bidirectional
► Created at increasing levels of detail
► Used to represent the relationships among the external entities

176. Select the correct statement among the following on proper naming of schema constructs:

► Entity type name applies to all the entities belonging to that entity type and therefore a plural name is selected for entity type.
► **In the narrative description of the database requirements, verbs tend to indicate the names of relationship types.**
► The nouns arising from a database requirement description can be considered as names of attributes.
► Additional nouns which are appearing in the narrative description of the database requirements represent the weak entity type names.

177. _____is a control that enables users to select one option from an associated list; users can also type an option.

► **Combo box**
► Button
► Text box
► Static area

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178. Which is not the function of Database Management System?
- A user accessible Catalog
- Concurrency Control Services
- Failure Response Service
- Support for Data Communication

179. The conceptual database design can be transformed into any _____.
- Data model
- Database design
- E-R model
- Entity set

180. Which is the second stage in the database development process?
- Database design
- Preliminary Study
- Physical Design
- Requirement Analysis

181. Functional dependencies under interference rule reflexivity are called _____dependencies.
- Augmentation
- Transitivity
- Projectivity
- Trivial

182. If many instances of the "Book" entity are associated with the many instances of the "Student" entity, then the relationship between them is:
- One to one
- One to many
- Many to many
- Many to one

183. Which of the following constraints enforces entity integrity?
- PRIMARY KEY
- FOREIGN KEY
- CHECK
- NOT NULL

184. Unary operations involves
- Only one relation
- Only two relations

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- More than two relations
- Not more than five relations

185. A _____ entity has a primary key that is partially or totally derived from the parent entity in the relationship.
- Strong
- Weak
- Business
- Relationship

186. In _____ appropriate data model is chosen.
- ERD
- Conceptual Database Design
- Logical Database Design
- DFA

187. Which of the following is drawback of standardization?
- Difficult to understand
- Uniformity
- Lack of uniqueness
- Easy to develop applications

188. Recursive relationship is also called _____.
- Unary
- Ternary
- Primary
- Secondary

189. The foreign key attribute, which is present as a primary key in another relation is called as _____ of the foreign key attribute.
a. Binary relation
b. Composite relation
c. Home relation
d. Recursive relation

190. DFD does not provide us a way to represent _____

a. ntities
b. Decisions
c. Date stores
d. Processes

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191. A _____ is used to maintain a connection between the users of the database system.
- Virtual server
- File server
- Client server
- FTP server

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

a. Time consuming

b. Data security

c. Simplicity

d. Efficiency

193. Which of the following is the input to Analysis Phase?

a. DFD

b. Logical database design

c. Physical database design

d. Data model

194. Name and _____ are part of the definitions of an attribute.

a. Domain

b. Symbol

c. Property

d. Entity instance

195. Which of the following most certainly implies the need for an entire table to implement?

a. A ternary relationship

b. A recursive relationship

c. An identify relationship

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d. A binary relationship

196. Core of the Database Architecture is _____

a. Internal level

b. External level

c. Conceptual level

d. ANSI SPARK

197. _____ is same as equi-join with a slight difference.

a. Natural join

b. Semi join

c. Outer join

d. Theta join

198. Conceptual database design is implemented using a _____.

- Hierarchical data model
- Semantic data model
- Relational data model
- Network data model

199. Which constraint is generally used for efficiency purposes in the data entry process?

Null value

Integer value

Default value

String value

200. 3 NF relation is converted to BCNF by

a. Removing composite keys

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b. Removing multivalued dependencies

c. Dependent attributes of overlapping composite keys are put in a separate relation

d. Dependent non-key attributes are put in a separate table

201. Each _____ of a table contains atomic/single value.

a. Cell

b. Row

c. Column

d. Record

202. A relation is said to be in BCNF when

a. It has overlapping composite keys

b. It has no composite keys

c. It has no multivalued dependencies

d. It has no overlapping composite keys which have related attributes

203. Which one of the following is not a part of three-level architecture?

a. External level

b. Conceptual level

c. Internal level

d. Physical level

204. Which of the following is INCORRECT about naming entities?

a. Singular nouns are used

b. Write in capitals

c. Organization specific names can be used

d. Always use abbreviations as they are convenient

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205. An instance is

a. A particular occurance of an entity

b. A special type of relation

c. An attribute of an entity

d. Any particular entity

206. _____ is an example of metadata

a. Ali

b. Address

c. Person

d. Student

207. Level of data at which entities or objects exist in reality is called

a. Real world data

b. Schema for real world data

c. Meta data

d. Data about data

208. How many types of dependencies are?

a. One

b. Two

c. Three

d. Four

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

a. Normal

b. Theta

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c. Outer

d. Semi

210. Which of the following is not a key?

a. Super key

b. Alternate key

c. Integrity constraint key

d. Primary key

211. A collection of concepts that can be used to describe the structure of a database

a. Database

b. DBMS

c. Data model

d. Data

212. Any combination of attributes with super key is ____

a. Primary key

b. Foreign key

c. Super key

d. Candidate key

213. Binary relationships are those, which are established between

a. One entity type

b. Two entity type

c. Three entity type

Unlimited entities

214. _____ are called participants, when enrolled in a relationship.

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a. Attributes

b. Relations

c. Entities

d. Keys

215. In case of Context-level Diagram, the system is represented by

a. One process atleast

b. Two processes atleast

c. One process only

d. Any number of processes

216. Collection of raw facts is called _____.

a. Information

b. Object

c. Output

d. Data

217. A software package designed to store and manage database

a. Database

b. DBMS

c. Data model

d. Data

218. In _____ join common attributes appear twice in the output with selected rows.

a. Normal join

b. Semi join

c. Natural join

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d. Equi join

219. Within a table, each primary key value _____.

a. Is a minimal super key

b. Is always the first field in each table

c. Must be numeric

d. Must be unique

220. _____ is not an operation of relational algebra.

a. Addition

b. Union

c. Cartesian product

d. Set difference

221. Candidate keys which are not selected as primary key are called _____

a. Secondary keys

b. Foreign keys

c. Alternate keys

Composite keys

222. Major benefits of data sharing is:

a. Data of same applications placed at same place.

b. Data of same applications placed at different places

c. Data of different application places at same place

d. Data of different applications stored at placed place

223. Functional dependency between two attributes or sets of attributes i.e. Q and P is represented as _____.

a. $Q \rightarrow P$

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b. Q P

c. Q * P

d. Q + P

224. Which of the following is not the component of Relational Data Model?

a. Integrity Constraint

b. Manipulation Language

c. Relation / Table

d. Domain Constraint

225. The attribute that is calculated from other attribute is called _____.

a. Derived attribute

b. Multi-valued attribute

c. Composite attribute

d. Simple attribute

226. Consider the two attributes "CNIC_NO" and "Registration_NO". Both the attributes can be used for the unique identification. Now if the user selects the "CNIC_NO" as primary key, then "Registration_NO" is a ____ key.

a. Foreign

b. Secondary

c. Primary

d. Alternative

227. Which of the following constraint is included in the definition of the table?

a. Default value

b. Foreign key

c. Null

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d. Domain

228. The database deals with large amount of data. This property is called

a. Database design

b. Scalability

c. Concurrency

d. Robustness

229. Which one of the following is NOT a characteristic of meta data?

Data about data

Describes a data dictionary

Self-describing

Includes user data

230. Theta join is denoted mathematically as _____.

a. R X S

b. R X

c. R X S

d. RX RS

231. In cross reference matrix transitions are specified on _____ and database objects are specified on _____.

a. Y axis, X axis

b. X axis, Y axis

c. X axis, X axis

d. Y axis, Y axis

232. Each component of DBMS performs _____ functions.

a. Similar

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b. Different

c. Identical

d. Computational

233. Which of the following data model is not record based?

a. Hierarchical Data Model

b. Network Data model

c. Semantic Data model

d. Relational Data model

234. The basic purpose of diamond in ER diagram is to show the _____.

a. Attributes

b. Relationships

c. Composite attribute

d. Entity set

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

a. SQL

b. MS Access

c. Oracle

d. This model is independent of any tool

236. In “one to many” cardinality one instance of a relation is mapped with _____.

a. Many instances of second entity type

b. One instance of second entity type

c. Primary key of second relation

d. Foreign key of second relation

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237. Cross reference matrix is developed at the _____ stage of the database.

a. Analysis

b. Designing

c. Implementation

d. Application

238. The population of the data of the organization for which the database is created is called the _____ of the database.

a. Extension

b. Intension

c. Model

d. Schema

239. User rights information is stored in

a. Physical database

b. Catalog

c. Logical database

d. Buffer

240. Logical data independency provides independency to change _____ model.

a. External

b. Logical

c. Conceptual

d. Internal

241. In natural join the common attribute in the output table appears _____.

a. Twice

b. Three times

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c. Four times

d. Once

242. Which levels are mostly used for detailed DFD?

a. Level-0, Level-1

b. Level-1, Level-2

c. Level-2, Level-3

d. Level-3, Level-4

243. By default, a non-key attribute in a relation can have _____ value.

a. Binary

b. Null

c. Character

d. Integer

244. The three levels architecture is useful for _____.

a. Arranging the data in an organized manner

b. Hiding the details of internal systems

c. Breaking the data access restriction

d. Storing definitions of the structures

245. With the help of _____ technique data values with the smaller sized codes can further reduce the space needed by the data for storage in the database.

Compression

Expansions

Negation

Extension

246. If an entity is linked with itself, than it is called _____ relationship.

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a. Binary

b. Ternary

c. Nary

d. Recursive

247. Duplication of data in controlled redundancy is controlled and _____.

a. Deliberate

b. Necessary

c. Precise

d. Unintentional

248. Teleprocessing is a sub-type of _____.

a. Single user database

b. Multi-user database

c. File server

d. Client server

249. In an ERD, the focus is on the _____ and the relationships between them.

a. Attributes

b. Entities

c. Keys

d. Indexes

250. The most widely used conceptual model is the _____ model.

a. Implementation

b. ER

c. Object oriented

d. Internal

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251. Student and book are two entities, what is the cardinality between the two?

a. Many to one

b. One to many

c. Many to many

d. One to one

252. RDM is a simple there is just one structure and that is _____.

a. A relation or a table

b. E-R model

Attributes

Data model

253. A description on a particular collection of data using the given data model.

a. Database

b. Relation

c. Schema

d. None

254. Consider thy key "CNIC, Name" and choose the best option that describes the key most effectively.

a. The given key is a super key and alternate key.

b. The given key is not a super key but a candidate key.

c. The given key is a super key and candidate key as well.

d. The given key is a super key but not a candidate key.

255. Normalization is a process of restricting a relation to

a. Minimize duplication of data in a database

b. Maximize duplication of data to ensure reliability

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c. Make if of uniform size

d. Allow addition of data

256. Unary relationship involves a single entity it is also called _____.

a. One to one relationship

b. One to many relationship

c. Many to many relationship

d. Recursive relationship

257. Which of the following is a part of a DFD but not included in the ERD?

a. The attribute having a single instance

b. The external entity having a single instance

c. The relationship having a single instance

d. The role having a single instance

258. The database management system (DBMS) is used to

a. Store the data

b. Access the data

c. Manage its users

d. All of above

259. In cross reference matrix attributes are mention on _____ and reports are mention on _____.

e. Y axis, X axis

f. Y axis, Z axis

g. X axis, Y axis

h. X axis, Z axis

260. A table can be logically connected to another table by defining a _____.

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a. Hyper link

b. Common attribute

c. Primary key

d. Super key

261. Data Redundancy means

a. Security of data

b. Duplication of data

c. Management of data

d. Recovery of data

86. Which of the following is a type of dependency?

a. DBMS

b. ERD

c. DFD

d. Referential

263. In your opinion, why relational database is widely acceptable?

a. Due to its complexity

b. Due to its approach

c. Due to its dependencies

d. Due to its strength

264._____ is the first comprehensive complete database design.

a. Logical database design

b. Relational database design

c. Conceptual database design

d. Hierarchical database design

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265. How data security can be assured in the database?

a. By hiding data from all
b. Through concurrent access of users
c. By asking users not to share things
d. Implementing encryption algorithms

266. The attributes whose value is not stored in a database is known as _____ attribute.

a. Stored
b. Single value
c. Multi value
d. Derived

267. Logical database design, like conceptual database design is our _____

a. Data model
b. Weak entity set
c. Strong entity set
d. Database design

268. If a single instance of "student" is associated with the many instances of the "subjects" entity, then the relationship between them is:

a. One to one
b. One to many
c. Many to many
d. Many to one

269. The conceptual database design is drawn through _____.

a. Data model

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b. ER model

c. Database design

d. Entity set

270. A relational database is

a. One that consist of two or more tables

b. A database that is able to process tables, queries, forms, reports and macros

c. One that consists of two or more tables that are joined in some way

d. The same as a flat file database

271. Database is a computerized representation of any organization's flow of _____ and storage of _____.

a. Data, information

b. Details, data

c. Data, details

d. Information, data

272. In which stage of the database development process logical design is created?

a. Requirement analysis

b. Database design

c. Physical design

d. Implementation

273. Which of the following is NOT an entity?

a. Employee

b. Hobby

c. Student

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d. Playground

274. After moving the determined columns from the original table to the new table while converting to 2NF, the determinate becomes the _____ of the new table.

a. Primary key

b. Foreign key

c. Secondary key

d. Composite key

275. The select operation works horizontally on the table, on the other hand the _____ operates on a single table vertically.

a. Binary operator

b. Project operator

c. Join operator

d. Select operator

276. Free standing data dictionary is created by

a. DFD

b. Database

c. CASE tools

d. Cross reference matrix

277. A patient can be an outdoor or indoor. Analyze this statement and tell what type of constraint will be applied on patient?

a. Total completeness

b. Partial completeness

c. Total disjoint

d. Partial disjoint

278. If A → B and A → C, then A → BC. The inference Rule applies is:

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a. Union

b. Decomposition

c. Augmentation

d. Reflexivity

279. Which of the following is the correct abbreviation of ERD?

a. Entity relationship diagram

b. Entity relation diagram

c. Entity reality diagram

d. Entity real distance

280. Database relation is also represented in a two dimensional structure called _____

a. Row

b. Table

c. Entity

d. Column

281. Data about data is metadata

a. True

b. False

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

a. Development, implementation operation of the physical database

b. Creation of the system catalog

c. Monitoring and controlling database security and authorization: setting up controls to ensure the quality and integrity of data

d. All of the above

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283. Each table must have a _____ key.

a. Primary

b. Secondary

c. Logical

d. Foreign

284. A relational database system is based on the concept(s) of:

a. A network of data records

b. Nested tables

c. Tables, row and columns

d. A tree-like structure of data

285. A → BC and A → B, then A → C follow _____ inference rule.

a. Augmentation

b. Transitivity

c. Projectivity

d. Additivity

286. Suppose, we have two entities "shape" and "triangle", then which of the following is a correct statement?

a. Shape is a super type entity and triangle is a sub type entity

b. Shape is a sub type entity and triangle is a super type entity

c. Shape and triangle both are super type entities

d. Shape and triangle both are sub type entities

287. The entity that is NOT dependent on any other entity for its existence is known as _____ entity.

a. Weak

b. Strong

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c. Derived

d. Dependent

288. In cross reference matrix attributes are specified on _____

a. X axis

b. Y axis

c. Z axis

d. None of the above

289. Which of the following clarify the semantics of a relationship?

a. Entity

b. Roles

c. Relationship set

d. Participants

290. How many types of cardinality is specified about relationship?

a. Two

b. One

c. Three

d. Four

291. Which of the following is NOT a component of a DFD?

a. Dataflow

b. Datastore

c. External entities

d. Relationship between external entities

292. Which of the following provides us the facility to add properties of one entity to another entity automatically?

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a. Abstraction

b. Encapsulation

c. Inheritance

d. Dependencies

293. If there is more than one relationship between two entities and we mentioned role on the relationship link, then it is called:

a. Unary relationship

b. Binary relationships

c. Ternary relationships

d. Multiple relationships

294. Which one of the following is not an advantage of DBMS

a. Data consistency

b. Recovery procedure is difficult

c. Faster development of new applications

d. Better backup and recovery procedures

295. In many to many relationship a third table is created for the relationship, which is also called as _____

a. Binary relation

b. Associative entity type

c. Unary relationship

d. Composite attributes

296. When one entity instance of another entity for its existence, then it is called _____

a. Existence dependency

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b. Identifier dependency

c. Referential dependency

d. Acceptance dependency

297. Relational data model is widely accepted due to its mathematically proven foundation and its _____

a. Complexity

b. Simplicity

c. Hierarchical structure

d. Traditional structure

298. If an entity "motor cycle" is associated with at most one "driver", then the relationship between these two entities is:

a. One to one

b. One to many

c. Many to many

d. Many to one

299. Database application is a program which is used for performing certain operations such as

a. Insertion of data

b. Extraction of data

c. Updating the data

d. All of above

300. Creating the relationships between new tables and their predecessors through the use of foreign keys is general requirements of _____

a. First normal form

b. Second normal form

c. Third normal form

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d. Fourth normal form

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

a. First normal form

b. Second normal form

c. Third normal form

d. Augmentation

302. Atomicity is a feature of _____.

a. 1NF

b. 2NF

c. 3NF

d. BCNF

303. The _____ can see entire information structure of the database.

a. DBA

b. DBTG

c. Database user

d. External viewer

304. The attribute whose value is not stored in a database is known as _____ attribute.

a. Stored

b. Single value

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c. Multi value

d. Derived

305._____ are the structure defined for placing data in the attributes while designing physical design of database.

a. Objects

b. Variables

c. Attributes

d. Data types

306.Suppose a relation has five columns and ten rows, select the correct option to identify cardinality of relation.

a. Five

b. Ten

c. Fifteen

d. Twenty

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

a. User accessible catalog

b. Data processing

c. Recovery service

d. Authorization service

308.The maximum PL/SQL size of data type “VARCHAR2” in DBMS is

_____ bytes

a. 42767

b. 52767

c. 32767

d. 28767

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309._____ is state of database where a “course” cannot be inserted in the table, because this course has not been registered to any “student”.

a. Insertion anomaly

b. Deletion anomaly

c. Updation anomaly

d. Redundancy

310.The maximum PL/SQL size of data type “BLOG” in DBMS is_____

a. 4 gigabytes

b. 8 gigabytes

c. 10 gigabytes

d. 12 gigabytes

311._____ states that in a relation no attributes of a primary key (PK) can have a null value.

a. Referential integrity constraint

b. Null constraint

c. Domain constraint

d. Entity integrity constraint

312.A database state where deletion of the information about the student record deletes the course information as well is called _____.

a. Insertion anomaly

b. Updation anomaly

c. Redundancy

d. Deletion anomaly

313.An entity type is

a. Defined when the database is actually constructed

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b. A specific type such as an integer, text, date, logical etc.

c. A coherent set of similar objects that we want to store data on (e.g. STUDENTS, COURSE, CAR)

d. Defined by the database designer

314. "select" and "project" are the examples of _____

a. Unary operation

b. Binary operation

c. Ternary operation

d. Nary operation

315. External scheme evolves as user needs are _____ over the time.

a. Ends

b. Modified

c. Switch

d. Stable

316. An attribute that is the collection of some other attribute(s) is known as _____ attributes.

a. Multi-valued

b. Single-valued

c. No-valued

d. Composite

317. Which of the following is correct regarding Dataflow diagram?

a. Single DFD is required to represent a system

b. The dataflow must be bidirectional

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c. Created at increasing levels of detail

d. Used to represent the relationships among the external entities

318._____ are those attributes that are a combination of two or more than two attributes.

a. Default value

b. Null value

c. Primary key

d. Composite attributes

319.Controlling redundancy in a database management system DOES NOT help to

a. avoid duplication

b. avoid unnecessary wastage of storage space

c. avoid unauthorized access to data

d. avoid inconsistency among data

320.Which of the following concepts is applicable with respect to 3NF?

a. Full functional dependency

b. Any kind of dependency

c. Transitive dependency

d. Partial functional dependency

321.Identify the operation which is NOT one of the parts of the five basic set operations in relational algebra?

a. Join

b. Union

c. Cartesian Product

d. Set Difference

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322. Making a change to the conceptual schema of a database but not affecting the existing external schemas is an example of

a. Physical data independence.

b. Concurrency control.

c. Logical data independence.

d. Functional dependency

323. For a third normal form we concentrate on relations with one _____ key, and we eliminate transitive dependencies

a. Candidate

b. Composite

c. Super key

d. Primary key

324. The entity relationship diagram is used to graphically represent the _____ database model.

a. Condensed

b. Physical

c. Logical

d. Conceptual

325. The _____ determines that the link between two entities is optional or mandatory.

a. Maximum cardinality

b. Minimum cardinality

c. Maximum degree

d. Minimum degree

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326. Select the most appropriate statement. Which of the following data model is used to design logical database design?

a. Relational

b. Hierarchal

c. Object oriented

d. Any model can be used

327. Truncate is an alternative of Delete command.

a. True

b. False

328. The most recently accessed data from the disk (as well as adjacent sectors) is stored in a _____.

a. Memory buffer

b. EPROM

c. ROM

d. Hard disk

329. Browser Based & Non-Browser/Simple are two different types of _____.

a. Forms

b. Language

c. Interface

d. Programs

330. Which of the following is incorrect about alter table statement?

a. Cannot be used to modify type or size of an existing column

b. Can be used to delete a column

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c. Cannot be used to create a new table

d. Can be used to add column in the existing table

331. What does the abbreviation DBMS stand for?

a. Database management software

b. Data borrowing and movement software

c. Digital base mapping system

d. Database management system

332. Suppose we have two tables T1 and T2, Tuples of T1 that do not match some row in T2 will not appear in

a. Outer join

b. Inner join

c. Both I and II

d. None of the above

333. Value of a function in SQL is always determined by the input parameters

a. True

b. False

334. Which of the following is true about creating database in MS Access?

a. First we will run MS Access and select New option from the file. Next it will ask the name of database.

b. After running MS Access, create database option is selected directly

c. Go to the tool option of MS Access and select create Database option with suitable name

d. Click on the file menu, select database option and then click it

335. In SQL queries, while creating tables or relations in database, key columns may be specified by

a. Null

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b. Not Null

c. Data Type

d. None of the above

336. In SQl, which command is used to modify the rows of tables.

a. UPDATE

b. INSERT

c. BROWSE

d. APPEND

337. Which of the following is one of the purposes of using DDL commands?

a. Inserting records into databases

b. Updating records into databases

c. Manipulating databases

d. Creating and destroying databases

338. The _____ should be user friendly. Data integrity must be ensured and checks can be applied within the tables.

a. Input forms

b. Computer language

c. Application programming

d. Database

339. A memory cache, sometimes called a cache store or _____.

a. ROM

b. DROM

c. RAM

d. Hard disk

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340. According to his/her level of knowledge/understanding, how many types of users are there _____?

a. Three

b. Four

c. Six

d. Two

341. DML does not used to:

a. Add new rows to tables

b. Retrieve rows from table

c. Modify the rows of tables

d. Alter a table definition

342. Which of the following prevents duplicate values to be displayed as a result of an SQL statement?

a. DISTINCT

b. DELETE

c. UPDATE

d. ALTER

343. GRANT belongs to which type of SQL commands classification

a. DML

b. DDL

c. DCL

d. DQL

344. _____ user interface is preferred over _____ user interface with respect to user.

a. Easy to understand, efficient

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b. Hard to understand, efficient

c. Easy to understand, effective

d. Hard to understand, effective

345. Which of the following is not true regarding clustering?

a. It increases the efficiency since related records are placed close to each other

b. Clustering makes records, difficult to access

c. Suitable to relatively static situations

d. It is a process, which means to place records from different tables to place in adjacent physical locations

346. The _____ condition allows to retrieve values within a specific range.

a. AND

b. LIKE

c. BETWEEN

d. FROM

347. WORM Stands for _____.

a. Write on. Read memory

b. Write-once, read-many

c. Write only memory

d. Read only memory

348. Identify the language which is used to specify database schema.

a. DCL

b. DML

c. DDL

d. None of the above

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349. At which design level de-normalization will take place.

a. Conceptual design

b. Logical design

c. Physical design

d. All of the above

350. The _____ keyword is used in SELECT statement to return different values.

a. LIKE

b. IN

c. DISTINCT

d. WHERE

351. "It should be user friendly and user must not search for required buttons or text boxes" this statement is about _____.

a. Application program

b. User friendly interface

c. Language

d. System program

352. Which of the flowing clauses allows to sort the records in result set?

a. Where

b. Order By

c. From

d. Having

353. Data manipulation language (DML) is the set of commands used to maintain and query a database including updating, inserting, modifying and retrieving data.

a. True

b. False

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354. The _____ function helps reduce the need to use multiple OR conditions.

a. Like

b. IN

c. AND

d. BETWEEN

355. Correct statement for creating table in Microsoft SQL server is:

a. CREATE TABLE Customer
(SID integer PRIMARY KEY,
Last_Name varchar(30),

b. CREATE TABLE
Customer (SID integer,

Last_Name varchar(30),

c. CREATE Customer
(SID integer, Last_Name
varchar(30),

d. All of the above

356. Which of the following is not DML command?

a. Select

b. Update

c. Delete

d. Truncate

357. In SQL, which command is used to delete rows from table.

a. DELETE

b. REMOVE

c. TRUNCATE

d. Both I and II

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358. Users know what to do and how to do it are called _____

a. Beginners

b. Intermediate

c. Experts

d. New

359. There are _____ types of user interfaces.

a. Three

b. Two

c. Four

d. One

360. DML stands for _____.

a. Dynamic Modeling Language

b. Data Manipulation Language

c. Data Management Language

d. Domain Modeling Language

361. Columns used to uniquely identify individual rows of a given table, may be specified to be NOT NULL.

a. True

b. False

362. Which of the following syntax of the functions in SQL is used to add column values?

a. COUNT(*)

b. COUNT(expression)

c. MAX(expression)

d. SUM(expression)

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363. SQL is used for:

a. Creating, managing and deleting tables and manage the relationships among the stored date.

b. Generating queries, organizing, managing and retrieving data stored in a database.

c. Maintaining data integrity and coordinate data sharing.

d. All of the above

364. Which of the following function falls in the category of Aggregate functions.

a. SUM

b. MIN

c. MAX

d. All of the above

365. REVOKE is a _____ statement.

a. Data Definition

b. Control Access

c. Data manipulation

d. Data description

366. SQL stands for _____.

I - Structured Query Language II – Standard Query Language lll- Status Query Language

a. ONLY I

b. ONLY II

c. BOTH I AND II

d. ONLY III

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367. What happens if the WHERE clause is omitted from a DELETE statement?

a. All records from the table are deleted

b. No record from the table will be deleted

c. First record of the table will be deleted

d. The statement will not be executed and will give a syntax error

368. General reasoning for horizontal or vertical partitioning is.

a. Increasing the consistency

b. Decreasing the query response time

c. Smaller tables are more efficient to process as compared to the larger tables.

d. All of the above

369. We should not compromise _____ over efficiency.

a. Consistency

b. Normalization

c. Query response time

d. All of the above

370. Which language is used to permit or prohibit access to a table?

a. DCL

b. DDL

c. DML

d. All of the above.

371. Which of the following is a correct way of selecting all the columns from a table called PERSONS?

a. SELECT FROM * Persons

b. SELECT * FROM Persons

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c. SELECT * WHERE Persons

d. SELECT WHERE * Persons

372. Which of the following is used to retrieve and insert information from database?

a. DML

b. DDL

c. DCL

d. Both DML and DDL

373. Which of the following statements creates a database named IMDB.

a. CREATE DATABASE IMDB;

b. CREATE DB IMDB;

c. ADD DATABASE named IMDB;

d. CREATE IMDB DATABASE;

374. Which of the following is not a part of an INSERT statement?

a. INTO

b. VALUE

c. INSERT

d. Modify

375. Objective of an order by clause is to display or arrange output of a select statement in a particular order.

a. True

b. False

376. Consider a table named “emp” having fields Empname, EmpID, Age, salary.

Which of the following is true if the following SQL statement tries to execute?

- SELECT *

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- FROM emp
- WHERE Empname='ALI'
- ORDERBY Age;

a. The statement displays the entire fields from emp in which the Empname is ALI in ascending order of their age

b. The statement has a syntax error

c. The statement displays the entire fields from emp in which the Empname is ALI in any order

d. The statement displays the entire fields from emp in which the Empname is ALI in descending order of their age

377. Truncate command responses time is _____ as compared to delete command.

a. Poor

b. Same

c. Better

d. Worst

378. Functions in SQL return a single value

a. True

b. False

379. Is the given SQL Statement prompt error?

a. Logical Error

b. No Error

c. Parameter Error

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d. Time out Error

380. Which of the following SQL statements used to control access to the data and to the database

a. GRANT

b. REVOKE

c. Both GRANT and REVOKE

d. SELECT

381. _____ types of caching are commonly used in personal computers:

a. Two

b. Three

c. Four

d. Five

382. Which of the following is the correct syntax for adding a new column into an existing table.

a. ALTER TABLE table_name { ALTER [COLUMN] column type [(size)] [DEFAULT default] }

b. ALTER TABLE table_name { ADD [COLUMN] column type [(size)] [DEFAULT default] }

c. Both I and II.

d. None of the above.

383. GRANT is a _____ command.

a. DDL

b. DML

c. DCL

d. None of the above

384. Consider the two relations,

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Supplier (S_no, S_name, Contact_No, Address)
and Supply (S_no, Item_no).

Which of the following statements give(s) a list of supplier names supplying the item with Item_no '555'?

a. SELECT S_name FROM Supplier WHERE Item_no='555'

b. SELECT S_name FROM Supplier, Supply WHERE Supplier.S_no=Supply.S_no AND Item_no='555'

c. SELECT S_name FROM Supplier WHERE S_no EXISTS (SELECT S_no FROM Supply WHERE Item_no='555')

d. SELECT S_name FROM Supplier WHERE S_name EXISTS (SELECT S_name FROM Supply WHERE Item_no='555')

385. Which of the following is NOT a DDL command?

a. Create DB

b. Create table

c. Delete

d. Drop

386. Which of the following is not an aggregate function

a. AVG

b. SUM

c. UPPER

d. MAX

387. Identify the basic part(s) of a SELECT statement?

a. SELECT

b. FROM

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c. Both SELECT and FROM

d. DISTINCT

388. The _____ operator allows to use wild cards in the where clause of an SQL statement.

a. IN

b. FROM

c. LIKE

d. None of the above.

389. Update command belong to which type of classification

a. DML

b. DDL

c. DCL

d. DQL

390. When the power is turned off content of _____ is lost.

a. Non volatile storage

b. Volatile storage

c. Permanent storage

d. Hard disk storage

391. Which of the following is used with INSERT command to insert values in a DB table?

a. ONTO

b. INTO

c. UPTO

d. WITH

392. Which of the following is used to filter rows according to some condition(s)?

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a. SELECT

b. FROM

c. WHERE

d. UPDATE

393. Which of the following is the string function in SQL

i. COUNT

ii. LEN

iii. SQRT

iv. SIN

394. Cache is a portion of memory made of high speed _____instead of the slower and cheaper _____used for man memory.

i. RAM,ROM

ii. ROM,RAM

iii. PROM,EPROM

iv. Static RAM(SRAM),DRAM

395. Program written to perform different requirement created by the users / Organization are called_____.

i. System program

b. Chip Program

c. Application Program

d. Low level program

396. The general activities, which are performed during the development of _____Editing, Display, Processing related activities and Report.

i. Application program

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ii. Hardware Program

iii. Micro Kemal program

iv. Database program

397. Text base & Graphical User Interface (GUI) most commonly called as Forms are two different type of _____

i. Application Program

ii. System program

iii. User interface

iv. Language

398. Forms are used in application program, home many type o forms are available _____?

i. Four

ii. Five

iii. One

iv. Two

399. An effective user interface minimizes the ___ users requires to learn and implement the system.

i. Space

ii. Time

iii. Complexity

iv. Efficiency

400. In vertical partitioning if we divide a table into two vertical partitions then efficiency of those applications will be reduced which is used to:

a. Access data from both the vertical partitions

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b. Access data from first vertical partition

c. Access data from second vertical partition

d. None of the above

401. Consider a table named “emp” having fields Empname, EmpID, Age, salary.

Which of the following is true if the following SQL statement tries to execute?

```
SELECT *
FROM emp

WHERE Empname='ALI';
```

a. The statement has a syntax error

b. The statement only displays the EmpID of those employees whose name is ALI

c. The statement displays the entire fields from emp in which the Empname is ALI

d. The statement must have an ORDERBY clause

402. A _____ index determines the storage order of data in table

a. Primary
b. Clustered
c. Dense
d. Secondary

403. Views are generally used to focus, simplify and customize the perceptions each user has of the ____

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a. Database

b. Program
c. Operating system

d. View

404._____provides rapid, non-sequential , direct access to records

a. Hashing

b. Collisions handling
c. Non hashing

d. Sequential

405.The log file is also called _____

a. Non Transaction file

b. Transaction file
c. Temporary file

d. Hash file

406.There are _____ways to create a new view in your database

a. Three
b. Two
c. Five

d. Six

407.The index which has some of the key value is classified as _____

a. Linear index
b. Dense index

c. Non dense index
d. Cluster index

a. Which of the following is not related to index sequential file structureRecords are stored in sequence and index in maintained
b. Dese and non dese type of indexes are maintained

c. Track overflow and file overflow areas are ensues

d. We chose a number of bucket to corresponds to the number of search key values we will have stored in the data base

408.Which file organization is allowed by direct access storage device?

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i. Sequential only

ii. Direct only
iii. Indexed and direct only

iv. Sequential indexed and direct

409._____ generally are complex views , views of views, and view of multiple table

i. Dynamic views

ii. Simple views

iii. Materialized view
iv. Generalized view

410.Inverted files or inversion , linked list B+ trees, there are the three implementation approaches of __

i. Sequential Access
ii. Hashing

iii. Non sequential

iv. Indexes

411.Following are the characteristics if _____

a. Non indexes to search or maintain
b. Very fast direct access

c. Inefficient sequential access
d. Use when direct access in needed, but sequential access is not

i. Index access

ii. Sequential index
iii. Hashed access

iv. Non hashed access

412.Can be defined when even there is no data in the table , existing values are checked in execution of this command , it supports section of forms , these are the major properties of _____

i. Sequential approach

ii. Direct approach

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iii. view

iv. indexes

413. The two basic types of record access methods are _____

i. sequential and random
ii. sequential and indexed

iii. direct and immediate

iv. sequential and immediate

► Important topics

- De-normalization (concept)
- Partitioning and its types
- Replication
- Basic commands of SQL (select ,insert , delete, create)
- (DDL, DML and DCL)
- Joins and it types
- RAID levels pg 259
- Hashing
- Handling the collision
- Primary and secondary indexing
- Clustered Versus Un-clustered Indexes
- Dense and Sparse Indices
- Transactions and Schedules
- Deadlocks , prevention, detection and handling
- Problems of Timestamping

Database:

It is an application which is a storage of collection of data. For creating, accessing, searching and replicating data, each database has distinct APIs. Files on system files and large hash tables in memory or other types of data stores can also be used. But in these types of systems data fetching and writing is not that easy.

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Relational Database Managements Systems (RDBMS):

Relational Database Managements Systems (RDBMS) are used now-a-days for storing and managing huge amount of data. Since all the data is stored in different tables and foreign keys are used to establish relations.

Relational Database Management System (RDBMS) has following features:

261. Implementations of database using tables, columns and indexes.

262. Referential Integrity between rows and columns is guaranteed.
263. Automatic updates of indexes.

264. Interpretation of a SQL query with a combination of information from different tables.

RDBMS DEFINITIONS:

- **Database:**

It is a collection of related data in tables.

265. **Tables:**

It is a matrix of data which looks like spreadsheets.

- **Column:**

Column is a collection of the same type and kind of data in a database. Example, Postcode column.

266. **Row:**

Row (tuple, record or entry) is a group of related data. Example, data of one subscription.

- **Redundancy:**

For making the system faster redundantly, storing it twice.

267. **Primary keys:**

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A unique key, whose value cannot occur twice in a table. It can e used to find only one row.

268. **Compound key:**

Compound key also known as composite key consists of many columns as one columns is not unique and distinct.

- **Foreign key:**

The linking key between two tables is called foreign key.

269. **Referential Integrity:**

It makes sure that the foreign key value is always pointing to an existing row.

- **Index:**

As we have an index at the back of the book, same is the case in index of a database.

SQL Database:

For many small and large businesses SQL is an easy to use RDBMS. A Swedish company MySQL AB, developed, marketed and supported SQL. It is popular due to its features some of them are listed below:

270. MySQL, is free to use as it is released under an open source licensed. So anyone can use it without paying for it.

271. It can also be used with large data sets, as it works well and fast with these also.

272. A well known standard form of SQL data language is used by MySQL.

273. PHP is a very appreciated and popular web development language, MySQL is very friendly with PHP.

274. It works well with other operating systems having different languages as PHP, Java, PERL, C, C++, etc.

275. A large subset functionality of expensive and powerful data packages are handle by MySQL, which is a very powerful program.

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276. The customizable feature of MySQL allows you to modify the software according to your own requirements as GPL license allowed programmers to do so.

PAST PAPERS QUESTIONS

- What is view write it's general syntax and different types
- Write down any four reasons that result in database transaction
- What is the main difference between drop and truncate command
- Preliminary study
- Create a view named product list on product table which show columns product(product id, product name, product quantity)
- Select * from persons where first name like%a; what does this statement return
- Identify the existing normal form of relations and covert into next higher normal form
- Write SQL command for 1. add a column named cs of text type 2. Drop cs description column 3. Delete the table].
- Difference between truncate command and Drop command.
- Difference between Alternate key and candidate key with example.
- Recovery procedure(write in correct order).
- Given 1 line, containing attributes. Like(Reg no , Roll no, stu name, class)
- Reg no and Roll no are both underlined. Describe the given line contain candidate keys or not. Also describe it is BCNF or not.
- 2 Questions are describe with SQL commands.
- Write characteristics of checkpoint.
- Table is given, Calculate student Mark's. Total Mark's are higher than average Mark's. Compute this table in SQL form and derive Mark's of the student.
- How many functions of an SQL. Mention with there names.
- 2,3questions are describe with SQL command.(Means Mostly Questions are from query part)
- De-normalization (concept)
- Partitioning and its types
- Replication
- Basic commands of SQL (select ,insert , delete, create)
- (DDL, DML and DCL)
- Joins and it types
- RAID levels pg 259
- Hashing
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- Problems of Timestamping

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CS403-Database Management System
Solved MCQS for Mid terms papers
Solved by JUNAID MALIK and Team



AL-Junaid Institude

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1. **Which is not the function of Database Management System?**
   a. **A user accessible Catalog**
   b. **Concurrency Control Services**
   c. **Failure Response Service**
   d. **Support for Data Communication**
2. **The conceptual database design can be transformed into any _____.**
   a. **Data model**
   b. **Database design**
   c. **E-R model**
   d. **Entity set**
3. **Which is the second stage in the database development process?**
   a. **Database design**
   b. **Preliminary Study**
   c. **Physical Design**
   d. **Requirement Analysis**
4. **Functional dependencies under interference rule reflexivity are called _____ dependencies.**
   a. **Augmentation**
   b. **Transitivity**
   c. **Projectivity**
   d. **Trivial**
5. **If many instances of the "Book" entity are associated with the many instances of the "Student" entity, then the relationship between them is:**
   a. **One to one**
   b. **One to many**
   c. **Many to many**
   d. **Many to one**
6. **Which of the following constraints enforces entity integrity?**
   a. **PRIMARY KEY**
   b. **FOREIGN KEY**
   c. **CHECK**
   d. **NOT NULL**

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7. Unary operations involves
   a. Only one relation
   b. Only two relations
   c. More than two relations
   d. Not more than five relations
8. A _____ entity has a primary key that is partially or totally derived from the parent entity in the relationship.
   a. Strong
   b. Weak
   c. Business
   d. Relationship
9. In _____ appropriate data model is chosen.
   a. ERD
   b. Conceptual Database Design
   c. Logical Database Design
   d. DFA
10. Which of the following is drawback of standardization?
   a. Difficult to understand
   b. Uniformity
   c. Lack of uniqueness
   d. Easy to develop applications
11. Recursive relationship is also called _____.
   a. Unary
   b. Ternary
   c. Primary
   d. Secondary
12. The foreign key attribute, which is present as a primary key in another relation is called as _____ of the foreign key attribute.
   a. Binary relation
   b. Composite relation
   c. Home relation
   d. Recursive relation

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13. DFD does not provide us a way to represent _____
    a. Entities
    b. Decisions AL-JUNAID INSTITUTE OF GROUP
    c. Date stores
    d. Processes
14. A _____ is used to maintain a connection between the users of the database system.
    a. Virtual server
    b. File server
    c. Client server
    d. FTP server
15. Which of the following is an advantage of using the Traditional File Organization?
    a. Time consuming
    b. Data security
    c. Simplicity
    d. Efficiency
16. Which of the following is the input to Analysis Phase?
    a. DFD
    b. Logical database design
    c. Physical database design
    d. Data model
17. Name and _____ are part of the definitions of an attribute.
    a. Domain
    b. Symbol
    c. Property
    d. Entity instance
18. Which of the following most certainly implies the need for an entire table to implement?
    a. A ternary relationship
    b. A recursive relationship
    c. An identify relationship
    d. A binary relationship
19. Core of the Database Architecture is _____

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a. Internal level
b. External level
c. Conceptual level
d. ANSI SPARK

20. _____ is same as equi-join with a slight difference.
a. Natural join
b. Semi join
c. Outer join
d. Theta join

21. Conceptual database design is implemented using a _____.
a. Hierarchical data model
b. Semantic data model AL-JUNAID INSTITUTE OF GROUP
c. Relational data model
d. Network data model

22. Which constraint is generally used for efficiency purposes in the data entry process?
a. Null value
b. Integer value
c. Default value
d. String value

23. A 3 NF relation is converted to BCNF by
a. Removing composite keys
b. Removing multivalued dependencies
c. Dependent attributes of overlapping composite keys are put in a separate relation
d. Dependent non-key attributes are put in a separate table

24. Each _____ of a table contains atomic/single value.
a. Cell
b. Row
c. Column
d. Record

25. A relation is said to be in BCNF when
a. It has overlapping composite keys

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b. It has no composite keys
c. It has no multivalued dependencies
d. It has no overlapping composite keys which have related attributes

26. Which one of the following is not a part of three-level architecture?
a. External level
b. Conceptual level
c. Internal level
d. Physical level

27. Which of the following is INCORRECT about naming entities?
a. Singular nouns are used
b. Write in capitals
c. Organization specific names can be used
d. Always use abbreviations as they are convenient

28. An instance is
a. A particular occurance of an entity
b. A special type of relation
c. An attribute of an entity
d. Any particular entity AL-JUNAID INSTITUTE OF GROUP

29. _____ is an example of metadata
a. Ali
b. Address
c. Person
d. Student

30. Level of data at which entities or objects exist in reality is called
a. Real world data
b. Schema for real world data
c. Meta data
d. Data about data

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31. There are _____ basic properties of the database relations.
    a. Four
    b. Three
    c. Six
    d. Two
32. How many types of dependencies are?
    a. One
    b. Two
    c. Three
    d. Four
33. In _____ join, only selected rows of a relation are made cross product with second relation.
    a. Normal
    b. Theta
    c. Outer
    d. Semi
34. Which of the following is not a key?
    a. Super key
    b. Alternate key
    c. Integrity constraint key
    d. Primary key
35. A collection of concepts that can be used to describe the structure of a database
    a. Database
    b. DBMS
    c. Data model
    d. Data
36. Any combination of attributes with super key is ____
    a. Primary key
    b. Foreign key
    c. Super key
    d. Candidate key
37. Binary relationships are those, which are established between

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a. One entity type
b. Two entity type
c. Three entity type
d. Unlimited entities

38. _____ are called participants, when enrolled in a relationship.
a. Attributes
b. Relations
c. Entities
d. Keys

39. Incase of Context-level Diagram, the system is represented by
a. One process atleast
b. Two processes atleast
c. One process only
d. Any number of processes

40. Collection of raw facts is called _____.
a. Information
b. Object
c. Output
d. Data

41. A software package designed to store and manage database
a. Database
b. DBMS
c. Data model
d. Data

42. In _____ join common attributes appear twice in the output with selected rows.
a. Normal join
b. Semi join
c. Natural join
d. Equi join

43. Within a table, each primary key value _____.
a. Is a minimal super key
b. Is always the first field in each table

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c. Must be numeric
d. Must be unique

44. _____ is not an operation of relational algebra.
a. Addition AL-JUNAID INSTITUTE OF GROUP
b. Union
c. Cartesian product
d. Set difference

45. Candidate keys which are not selected as primary key are called _____
a. Secondary keys
b. Foreign keys
c. Alternate keys
d. Composite keys

46. Major benefits of data sharing is:
a. Data of same applications placed at same place.
b. Data of same applications placed at different places
c. Data of different application places at same place
d. Data of different applications stored at placed place

47. Functional dependency between two attributes or sets of attributes i.e. Q and P is represented as _____.
a. Q → P
b. Q P
c. Q * P
d. Q + P

48. Which of the following is not the component of Relational Data Model?
a. Integrity Constraint
b. Manipulation Language
c. Relation / Table
d. Domain Constraint

49. The attribute that is calculated from other attribute is called _____.
a. Derived attribute
b. Multi-valued attribute

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c. Composite attribute
d. Simple attribute

50. Consider the two attributes "CNIC_NO" and "Registration_NO". Both the attributes can be used for the unique identification. Now if the user selects the "CNIC_NO" as primary key, then "Registration_NO" is a ____ key.
a. Foreign
b. Secondary
c. Primary
d. Alternative

51. Which of the following constraint is included in the definition of the table?
a. Default value
b. Foreign key
c. Null
d. Domain

52. The database deals with large amount of data. This property is called
a. Database design
b. Scalability AL-JUNAID INSTITUTE OF GROUP
c. Concurrency
d. Robustness

53. Which one of the following is NOT a characteristic of meta data?
a. Data about data
b. Describes a data dictionary
c. Self-describing
d. Includes user data

54. Theta join is denoted mathematically as _____.
a. R X S
b. R X
c. R X Ø S
d. RX RS

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55. In cross reference matrix transitions are specified on _____ and database objects are specified on _____.
    a. Y axis, X axis
    b. X axis, Y axis
    c. X axis, X axis
    d. Y axis, Y axis

56. Each component of DBMS performs _____ functions.
    a. Similar
    b. Different
    c. Identical
    d. Computational

57. Which of the following data model is not record based?
    a. Hierarchical Data Model
    b. Network Data model
    c. Semantic Data model
    d. Relational Data model

58. The basic purpose of diamond in ER diagram is to show the _____.
    a. Attributes
    b. Relationships
    c. Composite attribute
    d. Entity set AL-JUNAID INSTITUTE OF GROUP

59. Which of the following tool is used to design conceptual database design?
    a. SQL
    b. MS Access
    c. Oracle
    d. This model is independent of any tool

60. In "one to many" cardinality one instance of a relation is mapped with _____.
    a. Many instances of second entity type
    b. One instance of second entity type
    c. Primary key of second relation
    d. Foreign key of second relation

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61. Cross reference matrix is developed at the _____ stage of the database.
    a. Analysis
    b. Designing
    c. Implementation
    d. Application
62. The population of the data of the organization for which the database is created is called the _____ of the database.
    a. Extension
    b. Intension
    c. Model
    d. Schema
63. User rights information is stored in
    a. Physical database
    b. Catalog
    c. Logical database
    d. Buffer
64. Logical data independency provides independency to change _____ model.
    a. External
    b. Logical
    c. Conceptual
    d. Internal
65. In natural join the common attribute in the output table appears _____.
    a. Twice
    b. Three times
    c. Four times
    d. Once
66. Which levels are mostly used for detailed DFD?
    a. Level-0, Level-1
    b. Level-1, Level-2
    c. Level-2, Level-3

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d. Level-3, Level-4

67. By default, a non-key attribute in a relation can have _____ value.

a. Binary
b. Null
c. Character
d. Integer

68. The three levels architecture is useful for _____.

a. Arranging the data in an organized manner
b. Hiding the details of internal systems
c. Breaking the data access restriction
d. Storing definitions of the structures

69. With the help of _____ technique data values with the smaller sized codes can further reduce the space needed by the data for storage in the database.

a. Compression
b. Expansions
c. Negation
d. Extension

70. If an entity is linked with itself, than it is called _____ relationship.

a. Binary
b. Ternary
c. Nary
d. Recursive

71. Duplication of data in controlled redundancy is controlled and _____.

a. Deliberate
b. Necessary
c. Precise
d. Unintentional

72. Teleprocessing is a sub-type of _____.

a. Single user database
b. Multi-user database

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c. File server
d. Client server

73. In an ERD, the focus is on the _____ and the relationships between them.
a. Attributes
b. Entities
c. Keys
d. Indexes

74. The most widely used conceptual model is the _____ model.
a. Implementation
b. ER
c. Object oriented
d. Internal

75. Student and book are two entities, what is the cardinality between the two?
a. Many to one
b. One to many
c. Many to many
d. One to one

76. RDM is a simple there is just one structure and that is _____.
a. A relation or a table
b. E-R model
c. Attributes
d. Data model

77. A description on a particular collection of data using the given data model.
a. Database
b. Relation
c. Schema
d. None

78. Consider thy key "CNIC, Name" and choose the best option that describes the key most effectively.
a. The given key is a super key and alternate key.

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b. The given key is not a super key but a candidate key.
c. The given key is a super key and candidate key as well.
d. The given key is a super key but not a candidate key.

79. Normalization is a process of restricting a relation to
a. Minimize duplication of data in a database
b. Maximize duplication of data to ensure reliability
c. Make if of uniform size
d. Allow addition of data

80. Unary relationship involves a single entity it is also called _____.
a. One to one relationship
b. One to many relationship
c. Many to many relationship
d. Recursive relationship

81. Which of the following is a part of a DFD but not included in the ERD?
a. The attribute having a single instance
b. The external entity having a single instance
c. The relationship having a single instance
d. The role having a single instance

82. The database management system (DBMS) is used to
a. Store the data
b. Access the data
c. Manage its users
d. All of above

83. In cross reference matrix attributes are mention on _____ and reports are mention on _____.
e. Y axis, X axis
f. Y axis, Z axis
g. X axis, Y axis
h. X axis, Z axis

84. A table can be logically connected to another table by defining a _____.

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a. Hyper link
b. Common attribute
c. Primary key
d. Super key

85. Data Redundancy means
a. Security of data
b. Duplication of data
c. Management of data
d. Recovery of data

86. Which of the following is a type of dependency?
a. DBMS
b. ERD
c. DFD
d. Referential

87. In your opinion, why relational database is widely acceptable?
a. Due to its complexity
b. Due to its approach AL-JUNAID INSTITUTE OF GROUP
c. Due to its dependencies
d. Due to its strength

88. _____ is the first comprehensive complete database design.
a. Logical database design
b. Relational database design
c. Conceptual database design
d. Hierarchical database design

89. How data security can be assured in the database?
a. By hiding data from all
b. Through concurrent access of users
c. By asking users not to share things
d. Implementing encryption algorithms

90. The attributes whose value is not stored in a database is known as _____ attribute.

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a. Stored
b. Single value
c. Multi value
d. Derived

91. Logical database design, like conceptual database design is our _____
a. Data model
b. Weak entity set
c. Strong entity set
d. Database design

92. If a single instance of "student" is associated with the many instances of the "subjects" entity, then the relationship between them is:
a. One to one
b. One to many
c. Many to many
d. Many to one

93. The conceptual database design is drawn through _____.
a. Data model
b. ER model
c. Database design
d. Entity set

94. A relational database is
a. One that consist of two or more tables
b. A database that is able to process tables, queries, forms, reports and macros
c. One that consists of two or more tables that are joined in some way
d. The same as a flat file database

95. Database is a computerized representation of any organization's flow of _____ and storage of _____.
a. Data, information
b. Details, data

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c. Data, details
d. Information, data

96. In which stage of the database development process logical design is created?
a. Requirement analysis
b. Database design
c. Physical design
d. Implementation

97. Which of the following is NOT an entity?
a. Employee
b. Hobby
c. Student
d. Playground

98. After moving the determined columns from the original table to the new table while converting to 2NF, the determinate becomes the _____ of the new table.
a. Primary key
b. Foreign key
c. Secondary key
d. Composite key

99. The select operation works horizontally on the table, on the other hand the _____
operates on a single table vertically.
a. Binary operator
b. Project operator
c. Join operator
d. Select operator

100. Free standing data dictionary is created by
a. DFD
b. Database
c. CASE tools
d. Cross reference matrix

101. A patient can be an outdoor or indoor. Analyze this statement and tell what type of

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constraint will be applied on patient?

a) Total completeness
b) Partial completeness
c) Total disjoint
d) Partial disjoint

102. If A → B and A → C, then A → BC. The inference Rule applies is:

a) Union
b) Decomposition
c) Augmentation
d) Reflexivity

103. Which of the following is the correct abbreviation of ERD?

a) Entity relationship diagram
b) Entity relation diagram
c) Entity reality diagram
d) Entity real distance

104. Database relation is also represented in a two dimensional structure called _____

a) Row
b) Table
c) Entity
d) Column

105. Data about data is metadata

a) True
b) False

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

a) Development, implementation operation of the physical database
b) Creation of the system catalog
c) Monitoring and controlling database security and authorization: setting up controls to ensure the quality and integrity of data
d) All of the above

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107. Each table must have a _____ key.
   a) Primary
   b) Secondary
   c) Logical
   d) Foreign

108. A relational database system is based on the concept(s) of:
   a) A network of data records
   b) Nested tables
   c) Tables, row and columns
   d) A tree-like structure of data

109. A → BC and A → B, then A → C follow _____ inference rule.
   a) Augmentation
   b) Transitivity
   c) Projectivity
   d) Additivity

110. Suppose, we have two entities "shape" and "triangle", then which of the following is a correct statement?
   a) Shape is a super type entity and triangle is a sub type entity
   b) Shape is a sub type entity and triangle is a super type entity
   c) Shape and triangle both are super type entities
   d) Shape and triangle both are sub type entities

111. The entity that is NOT dependent on any other entity for its existence is known as _____ entity.
   a) Weak
   b) Strong
   c) Derived
   d) Dependent

112. In cross reference matrix attributes are specified on _____
   a) X axis
   b) Y axis
   c) Z axis
   d) None of the above

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113. Which of the following clarify the semantics of a relationship?
   a) Entity
   b) Roles
   c) Relationship set
   d) Participants

114. How many types of cardinality is specified about relationship?
   a) Two
   b) One
   c) Three
   d) Four

115. Which of the following is NOT a component of a DFD?
   a) Dataflow
   b) Datastore
   c) External entities
   d) Relationship between external entities

116. Which of the following provides us the facility to add properties of one entity to another entity automatically?
   a) Abstraction
   b) Encapsulation
   c) Inheritance
   d) Dependencies

117. If there is more than one relationship between two entities and we mentioned role on the relationship link, then it is called:
   a) Unary relationship
   b) Binary relationships
   c) Ternary relationships
   d) Multiple relationships

118. Which one of the following is not an advantage of DBMS
   a) Data consistency
   b) Recovery procedure is difficult
   c) Faster development of new applications
   d) Better backup and recovery procedures

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119. In many to many relationship a third table is created for the relationship, which is also called as _____
   a) Binary relation
   b) Associative entity type
   c) Unary relationship
   d) Composite attributes

120. When one entity instance of another entity for its existence, then it is called _____
   a) Existence dependency
   b) Identifier dependency
   c) Referential dependency
   d) Acceptance dependency

121. Relational data model is widely accepted due to its mathematically proven foundation and its ____
   a) Complexity
   b) Simplicity
   c) Hierarchical structure
   d) Traditional structure

122. If an entity "motor cycle" is associated with at most one "driver", then the relationship between these two entities is:
   a) One to one
   b) One to many
   c) Many to many
   d) Many to one

123. Database application is a program which is used for performing certain operations such as
   a) Insertion of data
   b) Extraction of data
   c) Updating the data
   d) All of above

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124. Creating the relationships between new tables and their predecessors through the use of foreign keys is general requirements of _____
   a) First normal form
   b) Second normal form
   c) Third normal form
   d) Fourth normal form

125. In _____ the domains of attributes of a relation are atomic, that is they consist of single units that cannot be broken down further.
   a) First normal form
   b) Second normal form
   c) Third normal form
   d) Augmentation

126. Atomicity is a feature of _____.
   a) 1NF
   b) 2NF
   c) 3NF
   d) BCNF

127. The _____ can see entire information structure of the database.
   a) BA
   b) DBTG
   c) Database user
   d) External viewer

128. The attribute whose value is not stored in a database is known as _____ attribute.
   a) Stored
   b) Single value
   c) Multi value
   d) Derived

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129. _____ are the structure defined for placing data in the attributes while designing physical design of database.
   a) Objects
   b) Variables
   c) Attributes
   d) Data types

130. Suppose a relation has five columns and ten rows, select the correct option to identify cardinality of relation.
   a) Five
   b) Ten
   c) Fifteen
   d) Twenty

131. Which feature of database provides conversion from inconsistent state of DB to a consistent state ensuring minimum data loss?
   a) User accessible catalog
   b) Data processing
   c) Recovery service
   d) Authorization service

132. The maximum PL/SQL size of data type "VARCHAR2" in DBMS is _____ bytes
   a) 42767
   b) 52767
   c) 32767
   d) 28767

133. _____ is state of database where a "course" cannot be inserted in the table, because this course has not been registered to any "student".
   a) Insertion anomaly
   b) Deletion anomaly
   c) Updation anomaly
   d) Redundancy

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134. The maximum PL/SQL size of data type "BLOG" in DBMS is_____
a) 4 gigabytes
b) 8 gigabytes
c) 10 gigabytes
d) 12 gigabytes

135. _____ states that in a relation no attributes of a primary key (PK) can have a null value.
a) Referential integrity constraint
b) Null constraint
c) Domain constraint
d) Entity integrity constraint

136. A database state where deletion of the information about the student record deletes the course information as well is called _____.
a) Insertion anomaly
b) Updation anomaly
c) Redundancy
d) Deletion anomaly

137. An entity type is
a) Defined when the database is actually constructed
b) A specific type such as an integer, text, date, logical etc.
c) A coherent set of similar objects that we want to store data on (e.g. STUDENTS, COURSE, CAR)
d) Defined by the database designer

138. "select" and "project" are the examples of _____
a) Unary operation
b) Binary operation
c) Ternary operation
d) Nary operation

139. External scheme evolves as user needs are _____ over the time.
a) Ends

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b) Modified
c) Switch
d) Stable

140. An attribute that is the collection of some other attribute(s) is known as _____ attributes.
a) Multi-valued
b) Single-valued
c) No-valued
d) Composite

141. Which of the following is correct regarding Dataflow diagram?
a) Single DFD is required to represent a system
b) The dataflow must be bidirectional
c) Created at increasing levels of detail
d) Used to represent the relationships among the external entities

142. _____ are those attributes that are a combination of two or more than two attributes.
a) Default value
b) Null value
c) Primary key
d) Composite attributes

143. Controlling redundancy in a database management system DOES NOT help to
a) avoid duplication
b) avoid unnecessary wastage of storage space
c) avoid unauthorized access to data
d) avoid inconsistency among data

144. Which of the following concepts is applicable with respect to 3NF?
a) Full functional dependency
b) Any kind of dependency
c) Transitive dependency

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d) Partial functional dependency

145. Identify the operation which is NOT one of the parts of the five basic set operations in relational algebra?

a) Join
b) Union
c) Cartesian Product
d) Set Difference

146. Making a change to the conceptual schema of a database but not affecting the existing external schemas is an example of

a) Physical data independence.
b) Concurrency control.
c) Logical data independence.
d) Functional dependency

147. For a third normal form we concentrate on relations with one _____ key, and we eliminate transitive dependencies

a) Candidate
b) Composite
c) Super key
d) Primary key

148. The entity relationship diagram is used to graphically represent the _____ database model.

a) Condensed
b) Physical
c) Logical
d) Conceptual

149. The _____ determines that the link between two entities is optional or mandatory.

a) Maximum cardinality
b) Minimum cardinality
c) Maximum degree
d) Minimum degree

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150. Select the most appropriate statement. Which of the following data model is used to design logical database design?

a) Relational
b) Hierarchal
c) Object oriented
d) Any model can be used

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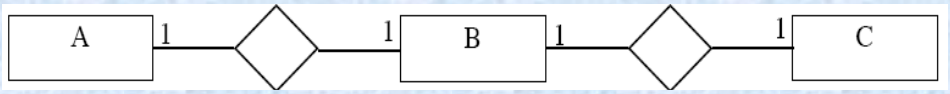
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MIDTERM EXAMINATION - Spring 2010

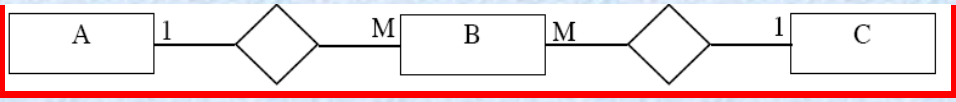
Question No: 1 (Marks: 1) - Please choose one
Which of the following is NOT a feature of Context DFD?

- ► one process (which represents the entire system)
- ► all sources/sinks (external entities)
- ► data flows linking the process to the sources and sinks (external entities)
- ► **sub-processes (which explain and decomposed the major process into small processes) (Page 62)**

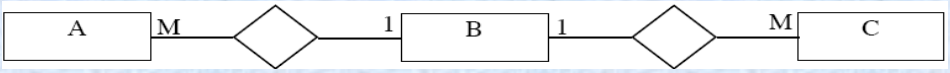
Question No: 2 (Marks: 1) - Please choose one
Which of the following is true for the relational model?
►Degree of a relation is the number of rows in a relation.
►Null value is a blank or zero value given to an attribute value when its value is inapplicable or its value is unknown.
►Complex key is a key consisting of more than one attribute.
►**Constraint is a rule that restricts the values in a database. (Page 18)**

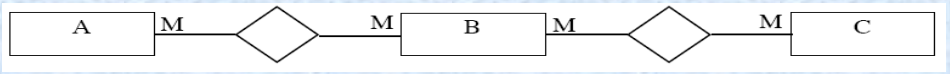
Question No: 3 (Marks: 1) - Please choose one
Which one of the following four E-R diagrams is the typical result you obtain when you initially start with an E-R diagram containing just two entities, A and C, in a Many-to-Many relationship, and then introduce an associative entity (B).

►

►

Click here for Detail

►

►

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Question No: 4 (Marks: 1) - Please choose one
Which of the following most certainly implies the need for an entire table to implement?

- ► A binary relationship
- ► **A ternary relationship** Click here for Detail
- ► A recursive relationship
- ► An identifying relationship

Question No: 5 (Marks: 1) - Please choose one
Which of the following constraints enforces entity integrity?

- ► PRIMARY KEY
- ► FOREIGN KEY
- ► CHECK
- ► **NOT NULL (Page 134)**

Question No: 6 (Marks: 1) - Please choose one
Which of the following is not true about relational tables?

- ► Column values are of the same kind.
- ► Each row is unique.
- ► Each column must have a unique name.
- ► **The sequence of rows is significant.** Click here for Detail

Question No: 7 (Marks: 1) - Please choose one
In a conceptual model for a university, what type of relationship exists between Grade and Student entities?

- ► 1:1
- ► **1:M** Click here for Detail
- ► M:M
- ► Ternary

Question No: 8 (Marks: 1) - Please choose one
Controlling redundancy in a database management system DOES NOT help to

- ► avoid duplication (Page 16)
- ► avoid unnecessary wastage of storage space
- ► **avoid unauthorised access to data** Click here for detail
- ► avoid inconsistency among data

Question No: 9 (Marks: 1) - Please choose one
Which of the following is INCORRECT with respect to file systems?

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► At the physical level, pointer or hashed address scheme may be employed to provide a certain degree of data independence at the user level.

► A logical record is concerned with efficient storage of information in the secondary storage devices.

► Some physical organisations use pointers to record blocks to locate records on disk.

► The efficiency of a file system depends on how efficiently operations such as retrieve, insert, update, delete may be performed on the information stored in the file.

Question No: 10 (Marks: 1) - Please choose one

Which of the following functions are NOT performed by a database administrator?

► Planning, designing and implementing database systems

► Establishing standards and procedures for database systems

► **Communicating with database users (Page 26)**

► Allocation of storage locations and data structures

Question No: 11 (Marks: 1) - Please choose one

Select the correct statement about the ANSI/SPARC architecture.

► **The conceptual level is a level of indication between the internal level and the external level. (Page 33)**

► The internal level in a database system will definitely be relational.

► Any given database has many conceptual schemas and one physical schema, but it has only one external schemas.

► The external level is not concerned with individual user perceptions, while the conceptual level is concerned with a community user perception.

Question No: 12 (Marks: 1) - Please choose one

Which of the following is a correct way to implement one-to-many relationship while designing tables?

► **by splitting the data into two tables with primary key and foreign key relationships.**
Click here for Detail

► using a junction table with the keys from both the tables forming the composite primary key of the junction table.

► by splitting each table into three

► as a single table and rarely as two tables with primary and foreign key relationships.

Question No: 13 (Marks: 1) - Please choose one

Which of the following is not a benefit of normalization?

► Minimize insertion anomolies

► Minimize deletion anomolies

► Minimize updation anomolies

► **Maximize redundancy (Page 162)**

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Question No: 14 (Marks: 1) - Please choose one
Consider the following relation R and its sample data. (Consider that these are the only tuples for the given relation)

EmpNo	DeptNo	ProjNo
1001	01	12
1001	01	13
1002	01	12
1003	01	14

Which of the following statements is NOT correct?

- ► The functional dependency (EmpNo, DeptNo) -> ProjNo holds over R.
- ► The functional dependency EmpNo -> DeptNo holds over R.
- ► The functional dependency ProjNo -> DeptNo holds over R.
- ► **The functional dependency (EmpNo, ProjNo) -> DeptNo holds over R.**

Question No: 15 (Marks: 1) - Please choose one
The Entity Relation Model models

- ► Entities, Relationships and Processes
- ► **Entities and Relationships (Page 71)**
- ► Relationships
- ► Entities

Question No: 16 (Marks: 1) - Please choose one
As part of database naming conventions, attribute names should use suffixes such as ID, NUMBER or CODE for the _____.

- ► **primary key**
- ► foreign key
- ► index
- ► determinant

MIDTERM EXAMINATION
Spring 2010
CS403- Database Management Systems (Session - 4)

Question No: 1 (Marks: 1) - Please choose one
User rights information is stored in

- ► Physical database
- ► **Catalog (Page 46)**
- ► Logical database
- ► Buffer

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Question No: 2 (Marks: 1) - Please choose one
Making a change to the conceptual schema of a database but not affecting the existing external schemas is an example of

- ► Physical data independence.
- ► Concurrency control.
- ► **Logical data independence.** Click here for detail
- ► Functional dependency

Question No: 3 (Marks: 1) - Please choose one
Which of the following is NOT a feature of Context DFD?

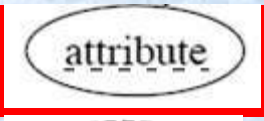
- ► one process (which represents the entire system)
- ► all sources/sinks (external entities)
- ► data flows linking the process to the sources and sinks (external entities)
- ► **sub-processes (which explain and decomposed the major process into small processes) (Page 62) rep**

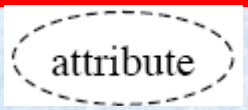
Question No: 4 (Marks: 1) - Please choose one
A relation (from the relational database model) consists of a set of tuples, which implies that

- ► **all tuples in a relation must be distinct. (Page 129)**
- ► relational model supports multi-valued attributes whose values can be represented in sets.
- ► for any two tuples, the values associated with all of their attributes may be the same.
- ► all tuples in a particular relation may have different attributes.

Question No: 5 (Marks: 1) - Please choose one
Choose the symbol that corresponds to a discriminator attributes.

- ► 

- ► 

Click here for detail
- ► 

- ► 

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Question No: 6 (Marks: 1) - Please choose one

Identify the constraint that limits the values that can be placed in a column.

- ► NOT NULL
- ► **CHECK** Click here for Detail
- ► FOREIGN KEY
- ► UNIQUE

Question No: 7 (Marks: 1) - Please choose one

Given are the relations of student and Instructor

Student

First Name	Last Name
Saman	Perera
Romesh	Dias
Jeeva	Silva
Nadee	Alwis
Kumari	Costa
Geetha	Zoysa
Prasad	Fernando

Instructor

Fname	Lname
Ajith	Gamage
Sujith	Hewage
Saman	Perera
Kasun	Peiris
Romesh	Dias

Consider the following table obtained using Student and Instructor relations.

Fname	Lname
Ajith	Gamage
Sujith	Hewage
Kasun	Peiris

Which relational algebra operation could have been applied on the pair of relations Student and Instructor to obtain the above data?

- ► **Instructor – Student**
- ► Student ∩ Instructor
- ► Instructor ÷ Student
- ► Student – Instructor

Question No: 8 (Marks: 1) - Please choose one

Identify the correct statement with respect to normalization.

- ► Normalization is a formal technique that can be used only at the starting phase of the database design.
- ► **Normalization can be used as a top-down standalone database design technique.**

Click here for detail

- ► The process of normalization through decomposition must achieve the lossless join property at any cost whereas the dependency reservation property is sometimes sacrificed.
- ► The process of normalization through decomposition must achieve the dependency reservation property at any cost whereas the lossless join property is sometimes sacrificed.

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Question No: 9 (Marks: 1) - Please choose one
Consider the relation Interview(CandidateNo, InterviewDate, InterviewTime, StaffNo, RoomNo) and the following functional dependencies.
FD1 : CandidateNo, InterviewDate -> InterviewTime, StaffNo, RoomNo
FD2 : RoomNo, InterviewDate, InterviewTime -> StaffNo, CandidateNo
FD3 : StaffNo, InterviewDate -> RoomNo
Which of the following is correct?

► **The relation Interview is in 3NF** Click here for detail
► The relation Interview is in BCNF.
► The FD3 violates 3NF.
► The FD2 violates 2NF.

Question No: 10 (Marks: 1) - Please choose one
Identify the INCORRECT statement among the given.
► An entity may be an object with a physical existence like a car, a house or an Employee.
► **One cannot consider something which has conceptual existence like a course in a degree program as an entity. (Page 71)**
► Age can be considered as a single value attribute of a person.
► An entity type describes the schema or intension for a set of entities which share the same structure.

Question No: 11 (Marks: 1) - Please choose one
Structural constraints of a relationship type refer to

► identifying the owner entity type relevant to a given entity type
► **whether the existence of an entity depends on it being related to another entity via the relationship type.** Click here for detail
► the role that a participating entity from the entity type plays in each relationship instance.
► the constraints applicable in granting access to tables, columns and views in a database schema.

Question No: 12 (Marks: 1) - Please choose one
A collection of concepts that can be used to describe the structure of a database

► Database
► DBMS
► **Data model** Click here for Detail (Page 68)
► Data

Question No: 13 (Marks: 1) - Please choose one
An entity can be logically connected to another by defining a ____.
► hyperlink
► **common attribute** Click here for detail
► primary key
► superkey

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Question No: 14 (Marks: 1) - Please choose one
The ____ constraint specifies whether each entity supertype occurrence must also be a member of at least one subtype.

► specialization
► uniqueness
► inheritance
► **completeness** Click here for Detail

Question No: 15 (Marks: 1) - Please choose one
Database management systems, operating systems, applications and utilities are all examples of ____.

► hardware
► **software** Click here for detail
► computer infrastructure
► input and output

Question No: 16 (Marks: 1) - Please choose one
Which of the following concepts is applicable with respect to 2NF?

► **Full functional dependency** Click here for detail
► Any kind of dependency
► Transitive dependency
► Non-transitive dependency

MIDTERM EXAMINATION Spring 2010
CS403- Database Management Systems (Session - 4)

Question No: 1 (Marks: 1) - Please choose one
A database system allows the following EXCEPT

► management and control of data towards an efficient working of an organisation.
► more critical functions in organisations to be computerised and the need to keep a large volume of data available in an up to the minute current state increased.
► **any user to access all its data.**
► integration of data across multiple applications into a single application.

Question No: 2 (Marks: 1) - Please choose one
User rights information is stored in

► Physical database
► **Catalog (Page 46) rep**
► Logical database
► Buffer

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Question No: 3 (Marks: 1) - Please choose one
The ER- data model is an example of:

► Physical database
► Logical database
► Relational database
► **Conceptual database** Click here for Detail

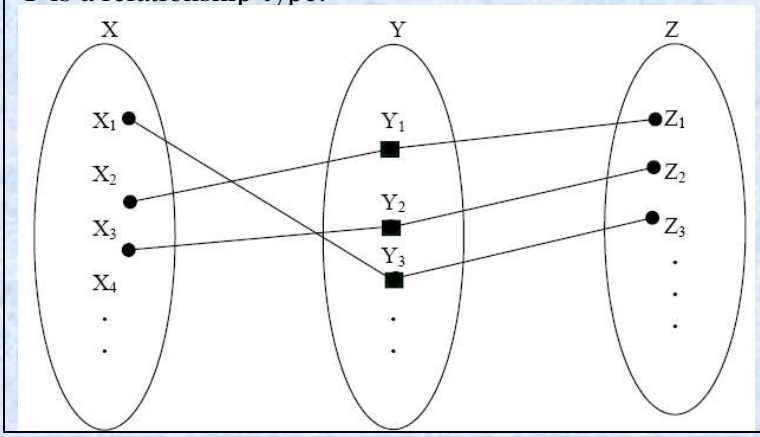
Question No: 4 (Marks: 1) - Please choose one
Which of the following is true about NOT NULL constraint?

► enforce domain integrity
► limit the values that can be placed in a column.
► **prevents any actions that would destroy links between tables with the corresponding data values**
Click here for detail
► enforces the uniqueness of the values in a set of columns

Question No: 5 (Marks: 1) - Please choose one
Consider the relation Interview(CandidateNo, InterviewDate, InterviewTime, StaffNo, RoomNo) and the following functional dependencies.
FD1 : CandidateNo, InterviewDate -> InterviewTime, StaffNo, RoomNo
FD2 : RoomNo, InterviewDate, InterviewTime -> StaffNo, CandidateNo
FD3 : StaffNo, InterviewDate -> RoomNo

Which of the following is correct?
► The relation Interview is in BCNF.
► The FD3 violates 3NF.
► The FD3 violates BCNF.
► The FD2 violates 2NF.

Question No: 6 (Marks: 1) - Please choose one
Consider the following diagram depicting a kind of a relationship type where X and Z are entities and Y is a relationship type:



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Select the correct statement among the following on the above diagram.

► **The relationship type Y is of cardinality ratio 1 : N.** Click here for Detail
► The diagram depicts existence dependencies.
► The participation of X in the Y relationship type is total.
► The participation of Z in the Y relationship type is partial.

Question No: 7 (Marks: 1) - Please choose one
Select the correct statement among the following.
► Role names are not technically necessary in relationship types when all the participating entity types are distinct.
► **When different entity types participate only once in a single relationship type it is called a recursive relationship. (Page 87)**
► Cardinality ratios for binary relationship are displayed on Entity Relationship Diagrams by using a diamond shape notation.
► Partial participation which is also called existence dependency is displayed as a double line connecting the participating entity type to the relationship.

Question No: 8 (Marks: 1) - Please choose one
Which of the following is true about relational schema?
► The sequence of columns is significant
► The sequence of rows is significant.
► Contains only derived attributes.
► **Values are atomic. (Page 127)**

Question No: 9 (Marks: 1) - Please choose one
Consider the given relations Student and Instructor as given below. Please note that Fname and Lname also denote the First Name and Last Name respectively.

Student

First Name	Last Name
Saman	Perera
Romesh	Dias
Jeeva	Silva
Nadee	Alwis
Kumari	Costa
Geetha	Zoysa
Prasad	Fernando

Instructor

Fname	Lname
Ajith	Gamage
Sujith	Hewage
Saman	Perera
Kasun	Peiris
Romesh	Dias

Which of the following statements is correct with respect to the two relations given above?
► The two relations are not union-compatible since their attribute names differ.
► **The set operations such as CARTESIAN PRODUCT and DIVISION can be applied on these two relations.**
► To find out those students who work as instructors, it is necessary to perform the operation Student ∩ Instructor.
► To find out the students who are not instructors, it is necessary to perform the operation Student ÷ Instructor.

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Question No: 11 (Marks: 1) - Please choose one Consider the following relation R and its sample data. (Consider that these are the only tuples for the given relation)

EmpNo	DeptNo	ProjNo
1001	01	12
1001	01	13
1002	01	12
1003	01	14

Which of the following statements is NOT correct?

► The functional dependency ProjNo -> DeptNo holds over R.
► **The functional dependency (EmpNo, ProjNo) -> DeptNo holds over R.**
► The functional dependency DeptNo -> ProjNo holds over R.
► The functional dependency EmpNo -> DeptNo holds over R.

Question No: 12 (Marks: 1) - Please choose one

A collection of related data is

► Logical model
► **Database** **(Page 10)**
► Data
► Relational model

Question No: 13 (Marks: 1) - Please choose one

A weak entity type

► must have total participation in an identifying relationship
► does not have a key attribute(s)
► **both (a) and (b)** **Click here for detail**
► none of the above

Question No: 14 (Marks: 1) - Please choose one

A description on a particular collection of data using the given data model

► Database
► **Schema** **(Page 18)**
► None of the above.
► Relation

Question No: 15 (Marks: 1) - Please choose one

If K is a foreign key in relation R1, then

► every tuple of R1 has a distinct value for K.
► K cannot have a null value for tuples in R1.
► K is a key for some other relation. Click here for detail
► K is a primary key for R1.

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Question No: 16 (Marks: 1) - Please choose one
Consider the following statements.
A. An entity integrity constraint states that no primary key value can be null.
B. A referential integrity constraint is specified between two relations.
C. A foreign key cannot be used to refer to its own relation.

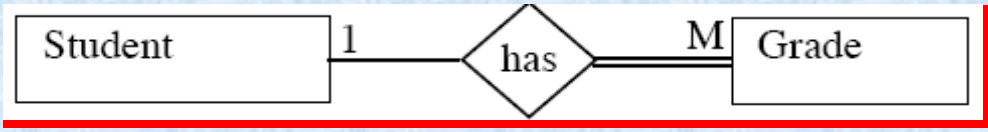
Identify which of the above statements is/are correct.

► **Only A (Page 134)**
► Only B
► B and C
► A and B

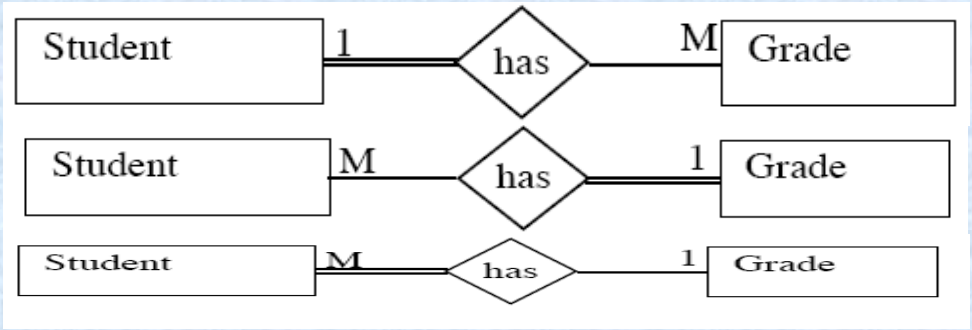
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Question No: 1 (Marks: 1) - Please choose one
Which of the following constraints enforces entity integrity?
►PRIMARY KEY
►FOREIGN KEY
►CHECK
►**NOT NULL (Page 134) rep**

Question No: 2 (Marks: 1) - Please choose one
Which one of the following E-R diagrams most correctly represents the relationship between Student and Grade entities?



Click here for detail



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Question No: 3 (Marks: 1) - Please choose one
Which of the following constraints enforces entity integrity?

► PRIMARY KEY
► FOREIGN KEY
► CHECK
► NOT NULL **(Page 134) rep**

Question No: 4 (Marks: 1) - Please choose one
Which of the following enforces a relation into 1st normal form?

► **The domain of attribute must include only atomic values. (Page 167)**
► Every non-key attribute is fully functionally dependent on primary key
► non-key attribute is non-transitively dependent on primary key.
► Every non-key attribute is partially dependent on super key

Question No:5 (Marks: 1) - Please choose one
Consider the following set of functional dependencies (FDs) on the following relational schema.
Emp_No -> {Ename, Bdate, Address, Dept_No}
Dept_No -> {Dname, Mgr_No}
The additional FD which can be inferred from the above set of FDs is

►Emp_No -> {Dname, Mgr_No}
►Emp_Name -> Dept_No .
►Emp_Name -> Dept_Name .
►Emp_Name, Dept_No -> Mgr_No .

Question No: 6 (Marks: 1) - Please choose one
Which of the following is a feature of PRIMARY KEY constraint?

►**unique identifier for a row within a database table.** Click here for Detail
►allow any actions that would destroy links between tables
►limit the values that can be placed in a column.
►enforces that the column will only accept null values.

Question No: 7 (Marks: 1) - Please choose one
Structural constraints of a relationship type refer to

► identifying the owner entity type relevant to a given entity type
► **whether the existence of an entity depends on it being related to another entity via the relationship type.** Click here for detail
► the role that a participating entity from the entity type plays in each relationship instance.
► the constraints applicable in granting access to tables, columns and views in a database schema.

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Question No: 8 (Marks: 1) - Please choose one
Which of the following is true about relational schema?

► The sequence of columns is significant
► The sequence of rows is significant.
► Contains only derived attributes.
► **Values are atomic. (Page 127) rep**

Question No: 9 (Marks: 1) - Please choose one
A ____ relationship exists when an association is maintained within a single entity.

►**unary** **(Page 144)**
►ternary
►binary
►weak

Question No: 10 (Marks: 1) - Please choose one
Which of the following is a correct way to implement one-to-many relationship while designing tables?

► **by splitting the data into two tables with primary key and foreign key relationships**.
Click here for Detail
► using a junction table with the keys from both the tables forming the composite primary key of the junction table.
► by splitting each table into three
► as a single table and rarely as two tables with primary and foreign key relationships.

Question No: 11 (Marks: 1) - Please choose one
Identify the correct statement.

► Entity integrity constraints specify that primary key values can be composite.
► **Entity integrity constraints are specified on individual relations.** Click here for detail
► Entity integrity constraints are specified between weak entities.
► When entity integrity rules are enforced, a tuple in one relation that refers to another relation must refer to an existing tuple.

Question No: 12 (Marks: 1) - Please choose one
A software package designed to store and manage databases

►Database
►**DBMS (Page 18)**
►Data model
►Data

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Question No: 13 (Marks: 1) - Please choose one
Who is responsible for authorizing access to the database, for coordinating and monitoring its use?
Select correct option:

►Database Designer
►**Database Administrator (Page 26)**
►End User
►Application Programmer

Question No: 14 (Marks: 1) - Please choose one
Consider the following relation R and its sample data. (Consider that these are the only tuples for the given relation)

EmpNo	DeptNo	ProjNo
1001	01	12
1001	01	13
1002	01	12
1003	01	14

Which of the following statements is NOT correct?

► The functional dependency (EmpNo, DeptNo) -> ProjNo holds over R.
► The functional dependency EmpNo -> DeptNo holds over R.
► The functional dependency ProjNo -> DeptNo holds over R.
► **The functional dependency (EmpNo, ProjNo) -> DeptNo holds over R.**

Question No: 15 (Marks: 1) - Please choose one
Which of the following statements is NOT correct?

► The functional dependency (EmpNo, DeptNo) -> ProjNo holds over R.
► The functional dependency EmpNo -> DeptNo holds over R.
► The functional dependency ProjNo -> DeptNo holds over R.
► **The functional dependency (EmpNo, ProjNo) -> DeptNo holds over R.**

Question No: 16 (Marks: 1) - Please choose one
Which feature of database provides conversion from inconsistent state of DB to a consistent state ensuring minimum data loss?
Select correct option:

►User accessible catalog
►Data processing
►**Recovery service (Page 47)**
►Authorization service

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MIDTERM EXAMINATION
Spring 2010
CS403- Database Management Systems (Session - 6)

Question No: 1 (M a r k s: 1)
Consider the following statements.
A. Conceptual schema which is the result of conceptual design is a logical description of all data elements and their relationships.
B. Internal level of the database architecture consists of the physical view of the database.
C. External level of the database architecture provides the user view of the database.

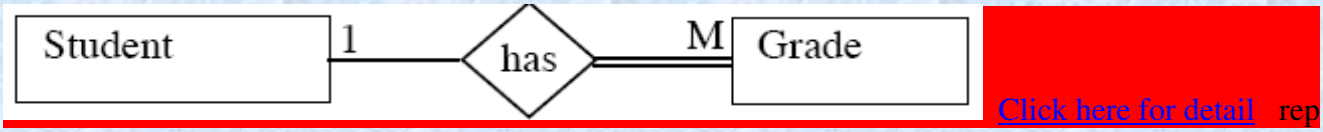
With respect to the ANSI/SPARC three level database architecture, which of the above is/are correct?

- ► Only A.
- ► Only C.
- ► Only A and B.
- ► **Only B and C. (Page 40)**

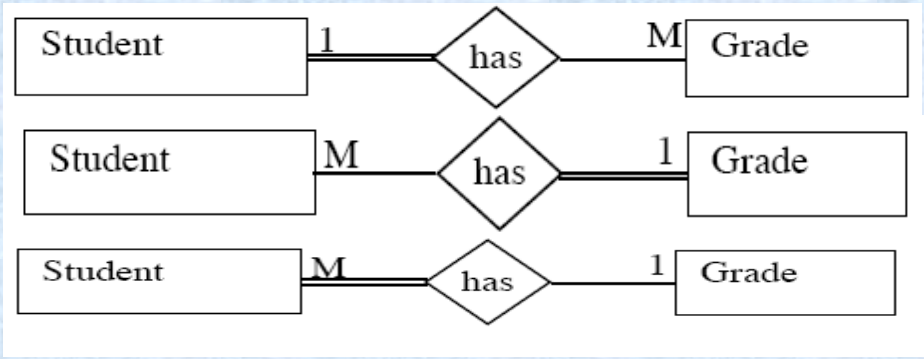
Question No: 2 (M a r k s: 1)
The ER- data model is an example of:

- ► Physical database
- ► Logical database
- ► Relational database
- ► **Conceptual database** Click here for Detail rep

Question No: 3 (M a r k s: 1)
Which one of the following E-R diagrams most correctly represents the relationship between Student and Grade entities?



Click here for detail rep



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Question No: 4 (M a r k s: 1)

Which of the following constraints enforces referential integrity?

- ► **FOREIGN KEY (Page 134)**
- ► CHECK
- ► PRIMARY KEY
- ► UNIQUE

Question No: 5 (M a r k s: 1)

Given are the relations of student and Instructor

Student

First Name	Last Name
Saman	Perera
Romesh	Dias
Jeeva	Silva
Nadee	Alwis
Kumari	Costa
Geetha	Zoysa
Prasad	Fernando

Instructor

Fname	Lname
Ajith	Gamage
Sujith	Hewage
Saman	Perera
Kasun	Peiris
Romesh	Dias

Consider the following table obtained using Student and Instructor relations.

Fname	Lname
Ajith	Gamage
Sujith	Hewage
Kasun	Peiris

Which relational algebra operation could have been applied on the pair of relations Student and Instructor to obtain the above data?

- ► **Instructor – Student**
- ► Student ∩ Instructor
- ► Instructor ÷ Student
- ► Student – Instructor

Question No: 6 (M a r k s: 1)

Consider the relation Interview (CandidateNo, InterviewDate, InterviewTime, StaffNo, RoomNo) and the following functional dependencies.

FD1 : CandidateNo, InterviewDate -> InterviewTime, StaffNo, RoomNo

FD2 : RoomNo, InterviewDate, InterviewTime -> StaffNo, CandidateNo

FD3 : StaffNo, InterviewDate -> RoomNo

Which of the following is correct?

- ► **The relation Interview is in 3NF** Click here for detail
- ► The relation Interview is in BCNF.
- ► The FD3 violates 3NF.
- ► The FD2 violates 2NF.

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Question No: 7 (M a r k s: 1)
Which of the following is INCORRECT statement concerning the database design process?

► During requirements collection and analysis phase, one can gather the data requirements of database users.

► By referring to a high level data model, it is possible to understand the data requirements of the users, entity types, relationships and constraints.

► Transformation of the high level data model into the implementation data model is called logical design or data model mapping.

► During the logical design phase of internal storage structures, access paths and file organization for the database files are specified. (Page 53)

Question No: 8 (M a r k s: 1)
Consider the following diagram depicting a kind of a relationship type where X and Z are entities and Y is a relationship type:

Select the correct statement among the following on the above diagram.

► The relationship type Y is of cardinality ratio 1 : N. Click here for Detail **rep**

► The diagram depicts existence dependencies.

► The participation of X in the Y relationship type is total.

► The participation of Z in the Y relationship type is partial.

Question No: 9 (M a r k s: 1)
Identify the correct statement.

► Entity integrity constraints specify that primary key values can be composite.

► Entity integrity constraints are specified on individual relations. Click here for detail rep

► Entity integrity constraints are specified between weak entities.

► When entity integrity rules are enforced, a tuple in one relation that refers to another relation must refer to an existing tuple.

Question No: 10 (M a r k s: 1)
Identify the correct statement.

► Referential integrity constraints check whether the primary key values are unique.

► Referential integrity constraints check whether an attribute value lies in the given range.

► Referential integrity constraints are specified between entities having recursive relationships.

► When Referential integrity rules are enforced, a tuple in one relation that refers to another relation must refer to an existing tuple. (Page 134)

Question No: 11 (M a r k s: 1)
Identify the correct way to implement one-to-one relationship in tables?

► by splitting the data into two tables with primary key and foreign key relationships.·

► as a single table and rarely as two tables with primary and foreign key relationships.

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Click here for Detail
► using a junction table with the keys from both the tables forming the composite primary key of the junction table.
► by creating two separate tables

Question No: 12 (M a r k s: 1)
A collection of related data is

► Logical model
► **Database (Page 10) rep**
► Data
► Relational model

Question No: 13 (M a r k s: 1)
A collection of concepts that can be used to describe the structure of a database

► Database
► DBMS
► **Data model** Click here for Detail (Page 68)
► Data

Question No: 14 (M a r k s: 1)
A superkey that does not contain a subset of attributes that is itself a superkey is called a ____.

► **candidate key (Page 82)**
► primary key
► superkey
► secondary key

Question No: 15 (M a r k s: 1)
As part of database naming conventions, attribute names should use suffixes such as ID, NUMBER or CODE for the _____.
► **primary key**
► foreign key
► index
► determinant

Question No: 16 (M a r k s: 1)
Which of the following concepts is applicable with respect to 2NF?
► **Full functional dependency** Click here for detail
► Any kind of dependency
► Transitive dependency
► Non-transitive dependency

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MIDTERM EXAMINATION
Spring 2010
CS403- Database Management Systems (Session - 1)

Question No: 1 (Marks: 1) - Please choose one
Which of the following functions are NOT performed by a database administrator?
► Planning, designing and implementing database systems
► Establishing standards and procedures for database systems
► **Communicating with database users (Page 26) rep**
► Allocation of storage locations and data structures

Question No: 2 (Marks: 1) - Please choose one
Identify the factor which enforces a relation in 3NF?
► Every non-key attribute is fully functionally dependent on primary key
► Every non-key attribute is partially dependent on super key
► **The domain of attribute must include only atomic values. (Page 167)**
► Every non-key attribute is non-transitively dependent on primary key.

Question No: 3 (Marks: 1) - Please choose one
Consider two sets A and B. A contains 2 elements and B contains 3. How many elements do their cartesian product contains?

► **6 (Page 129)**
► 9
► 5
► 4

Question No: 4 (Marks: 1) - Please choose one
Identify the operation which is NOT one of the parts of the five basic set operations in relational algebra?

► **Join** Click here for Detail
► Union
► Cartesian Product
► Set Difference

Question No: 5 (Marks: 1) - Please choose one
Consider the following statements.
A. An entity integrity constraint states that no primary key value can be null.
B. A referential integrity constraint is specified between two relations.
C. A foreign key cannot be used to refer to its own relation.

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Identify which of the above statements is/are correct.

► **Only A (Page 134) rep**
► Only B
► Only B and C
► Only A and B

Question No: 6 (Marks: 1) - Please choose one
User rights information is stored in

► Physical database
► **Catalog (Page 46) rep**
► Logical database
► Buffer

Question No: 7 (Marks: 1) - Please choose one
Given are the relations of student and Instructor

Student

First Name	Last Name
Saman	Perera
Romesh	Dias
Jeeva	Silva
Nadee	Alwis
Kumari	Costa
Geetha	Zoysa
Prasad	Fernando

Instructor

Fname	Lname
Ajith	Gamage
Sujith	Hewage
Saman	Perera
Kasun	Peiris
Romesh	Dias

Consider the following table obtained using Student and Instructor relations.

Fname	Lname
Ajith	Gamage
Sujith	Hewage
Kasun	Peiris

Which relational algebra operation could have been applied on the pair of relations Student and Instructor to obtain the above data?

► **Instructor – Student**
► Student ∩ Instructor
► Instructor ÷ Student
► Student – Instructor

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Question No: 8 (Marks: 1) - Please choose one
Which one is the corrected way to implement M to M relation which designing data base

► using junction table with keys
► By splitting data into tables with PK and FK
► As a single table rarly as to tables with PK and FK
►By creating three tables and linking them through PK and FK

Question No: 9 (Marks: 1) - Please choose one
Which enforce the a relation into 2NF User rights information is stored in

► Physical database
► **Catalog (Page 46) rep**
► Logical database
► Buffer

Question No: 10 (Marks: 1) - Please choose one
Which of the following concepts is applicable with respect to 3NF?

► Full functional dependency
► Any kind of dependency
► **Transitive dependency (Page 172)**
► Partial functional dependency

Question No: 11 (Marks: 1) - Please choose one
Description on particular collection of data using data model

► **Schema** Click here for Detail **(Page 19)**
► Relation
►Data base
► None of the above

Question No: 12 (Marks: 1) - Please choose one
Which one is true regarding relation?

► Every attribute value Non atomic
► Attribute in table may not have unique name
►table order of the column is relevant
► **the order of the rows is irrelevant** Click here for detail

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MIDTERM EXAMINATION
Fall 2010
CS403- Database Management Systems

Question No: 1 (Marks: 1) - Please choose one
Which of the following is not a benefit of normalization?

► Minimize insertion anomolies
► Minimize deletion anomolies
► Minimize updation anomolies
► **Maximize redundancy (Page 162) rep**

Question No: 2 (Marks: 1) - Please choose one
Controlling redundancy in a database management system DOES NOT help to

► **avoid duplication (Page 16) rep**
► avoid unnecessary wastage of storage space
► **avoid unauthorized access to data** Click here for detail
► avoid inconsistency among data

Question No: 3 (Marks: 1) - Please choose one
In a conceptual database model, which of the following most likely represents a valid identifier for a class grades?
► StudentID
► StudentID, CourseID
► StudentID, CourseID, InstructorID
► **StudentID, CourseSectionID** Click here for Detail

Question No: 4 (Marks: 1) - Please choose one
Identify the operation which is NOT one of the parts of the five basic set operations in relational algebra?
► **Join** Click here for Detail **rep**
► Union
► Cartesian Product
► Set Difference

Question No: 5 (Marks: 1) - Please choose one
Making a change to the conceptual schema of a database but not affecting the existing external schemas is an example of
► Physical data independence.
► Concurrency control.
► **Logical data independence.** Click here for detail
► Functional dependency

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Question No: 6 (Marks: 1) - Please choose one
Select the correct statement among the following on proper naming of schema constructs:
► Entity type name applies to all the entities belonging to that entity type and therefore a plural name is selected for entity type.
► **In the narrative description of the database requirements, verbs tend to indicate the names of relationship types.** Click here for Detail
► The nouns arising from a database requirement description can be considered as names of attributes.
► Additional nouns which are appearing in the narrative description of the database requirements represent the weak entity type names.

Question No: 7 (Marks: 1) - Please choose one
Identify the constraint that limits the values that can be placed in a column.
► Not null
► **Check** Click here for Detail **rep**
► Foreign Key
► Unique

Question No: 8 (Marks: 1) - Please choose one
Identify the INCORRECT statement among the given.
► An entity may be an object with a physical existence like a car, a house or an Employee.
► **One cannot consider something which has conceptual existence like a course in a degree program as an entity. (Page 71) rep**
► Age can be considered as a single value attribute of a person.
► An entity type describes the schema or intension for a set of entities which share the same structure.

Question No: 9 (Marks: 1) - Please choose one
Select the correct statement among the following.
► Role names are not technically necessary in relationship types when all the participating entity types are distinct.
► **When different entity types participate only once in a single relationship type it is called a recursive relationship. (Page 87) rep**
► Cardinality ratios for binary relationship are displayed on Entity Relationship Diagrams by using a diamond shape notation .
► Partial participation which is also called existence dependency is displayed as a double line connecting the participating entity type to the relationship .

Question No: 10 (Marks: 1) - Please choose one
If W, X, Y and Z are attributes of a relation, which of the following inference rules for functional dependencies is correct?

► If (X, Z) -> Y then X -> Y and Z -> Y.
► **If X -> Y and X -> Z then X -> (Y, Z).**
► If X Y then Y -> X
► If X -> Y then (X, Z) -> (Y,W).

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Question No: 11 (Marks: 1) - Please choose one
Which of the following is not a benefit of normalization?

► Minimize insertion anomolies
► Minimize deletion anomolies
► Minimize updation anomolies
► **Maximize redundancy (Page 162) rep**

Question No: 12 (Marks: 1) - Please choose one
A candidate key that does not have a null value and is selected to uniquely identify all other attribute values in any given row is called a .

► superkey
► candidate key
► **primary key** Click here for Detail
► secondary key

Question No: 13 (Marks: 1) - Please choose one
Incase of Context-level Diagram, the system is represented by
Select correct option:

►**One process atleast** Click here for Detail
►Two processes atleast
►One process only
►Any number of processes

Question No: 14 (Marks: 1) - Please choose one
A _____ is used to maintain a connection between the users of the database system.

Select correct option:
►Mail server
►**File Server** Click here for detail
►Client-server
►None of the given.

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MIDTERM EXAMINATION
Fall 2008
CS403- Database Management Systems (Session - 2)

Question No: 1 (Marks: 1) - Please choose one
Which of the following is not a benefit of normalization?

- ► Minimize insertion anomolies
- ► Minimize deletion anomolies
- ► Minimize updation anomolies
- ► **Maximize redundancy (Page 162) rep**

Question No: 2 (Marks: 1) - Please choose one
Which of the following is NOT a component of a DFD?

- ► Dataflow
- ► Datastore
- ► External entities
- ► **Relationship between external entities (Page 57)**

Question No: 3 (Marks: 1) - Please choose one
Which of the following is correct regarding Dataflow diagram?

- ► Single DFD is required to represent a system
- ► The dataflow must be bidirectional
- ► **Created at increasing levels of detail** Click here for Detail
- ►Used to represent the relationships among the external entities

Question No: 4 (Marks: 1) - Please choose one
Which of the following is CORRECT about database management system's languages?

- ► Data definition languages are used to specify the conceptual schema only.
- ► Data manipulation languages are used to create the databases.
- ► **Data manipulation languages are used for retrieval, insertion, deletion and modification of data.**

Click here for Detail

- ► Data definition langauges are only used to update data in the DBMS.

Question No: 5 (Marks: 1) - Please choose one
Controlling redundancy in a database management system DOES NOT help to

- ► avoid duplication
- ► **avoid unnecessary wastage of storage space** Click here for detail
- ► avoid unauthorised access to data
- ► avoid inconsistency among data

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Question No: 6 (Marks: 1) - Please choose one
Which of the following concepts is applicable with respect to 3NF?

► Full functional dependency
► Any kind of dependency
► **Transitive dependency (Page 172)**
► Partial functional dependency

Question No: 7 (Marks: 1) - Please choose one
Consider two sets A and B. A contains 3 elements and B contains 4. How many elements do their Cartesian product contains?

► **12 (Page 129)**
► 9
► 16
► 7

Question No: 8 (Marks: 1) - Please choose one
Consider two sets A and B. A contains 2 elements and B contains 3. How many elements do their cartesian product contains?

► **6 (Page 129)**
► 9
► 4
► 5

Question No: 9 (Marks: 1) - Please choose one
In a conceptual database model, which of the following most likely represents a valid identifier for a class grades?

► StudentID
► StudentID, CourseID
► StudentID, CourseID, InstructorID
► **StudentID, CourseSectionID** Click here for Detail rep

Question No: 10 (Marks: 1) - Please choose one
Identify the correct statement with respect to normalization.

► Normalization is a formal technique that can be used only at the starting phase of the database design.
► **Normalization can be used as a top-down standalone database design technique**. Click here for detail
rep
► The process of normalization through decomposition must achieve the lossless join property at any cost whereas the dependency reservation property is sometimes sacrificed.
► The process of normalization through decomposition must achieve the dependency reservation property at any cost whereas the lossless join property is sometimes sacrificed.

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Question No: 11 (Marks: 1) - Please choose one
Consider the following relation and its sample data. (Consider that these are the only tuples for the given relation)

EmpNo	DeptNo	ProjNo
1001	01	12
1001	01	13
1002	01	12
1003	01	14

Which of the following statements is NOT correct?

- ► The functional dependency DeptNo -> ProjNo holds over R.
- ► The functional dependency EmpNo -> DeptNo holds over R.
- ► The functional dependency ProjNo -> DeptNo holds over R.
- ► **The functional dependency (EmpNo, ProjNo) -> DeptNo holds over R.**

Question No: 12 (Marks: 1) - Please choose one
Which of the following is not true about relational tables?

- ► Column values are of the same kind.
- ► Each row is unique.
- ► Each column must have a unique name.
- ► **The sequence of rows is significant.** Click here for Detail **rep**

Question No: 13 (Marks: 1) - Please choose one
Identify the operation which is NOT one of the parts of the five basic set operations in relational algebra?

- ► **Join** Click here for Detail **rep**
- ► Union
- ► Cartesian Product
- ► Set Difference

Question No: 14 (Marks: 1) - Please choose one
Consider the following statements.
A. An entity integrity constraint states that no primary key value can be null.
B. A referential integrity constraint is specified between two relations.
C. A foreign key cannot be used to refer to its own relation.

Identify which of the above statements is/are correct.

- ► **Only A (Page 134) rep**
- ► Only B
- ► Only B and C
- ► Only A and B

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Question No: 15 (Marks: 1) - Please choose one

If K is a foreign key in relation R1, then

- ► every tuple of R1 has a distinct value for K.
- ► K cannot have a null value for tuples in R1.
- ► **K is a key for some other relation.** Click here for detail **rep**
- ► K is a primary key for R1.

Question No: 16 (Marks: 1) - Please choose one

Making a change to the conceptual schema of a database but not affecting the existing external schemas is an example of

- ► Physical data independence.
- ► Concurrency control.
- ► **Logical data independence.** Click here for detail **rep**
- ► Functional dependency

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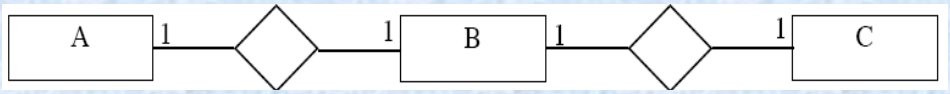
CS403- Database Management Systems
MIDTERM EXAMINATION - Spring 2010

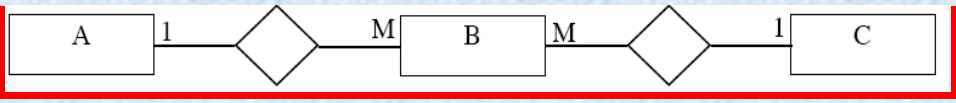
Question No: 1 (Marks: 1) - Please choose one
Which of the following is NOT a feature of Context DFD?

- ► one process (which represents the entire system)
- ► all sources/sinks (external entities)
- ► data flows linking the process to the sources and sinks (external entities)
- ► **sub-processes (which explain and decomposed the major process into small processes) (Page 62)**

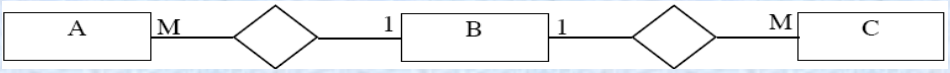
Question No: 2 (Marks: 1) - Please choose one
Which of the following is true for the relational model?
► Degree of a relation is the number of rows in a relation.
► Null value is a blank or zero value given to an attribute value when its value is inapplicable or its value is unknown.
► Complex key is a key consisting of more than one attribute.
► **Constraint is a rule that restricts the values in a database. (Page 18)**

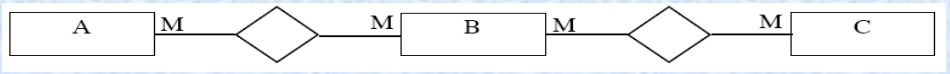
Question No: 3 (Marks: 1) - Please choose one
Which one of the following four E-R diagrams is the typical result you obtain when you initially start with an E-R diagram containing just two entities, A and C, in a Many-to-Many relationship, and then introduce an associative entity (B).

► 

► 

Click here for Detail

► 

► 

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Question No: 4 (Marks: 1) - Please choose one
Which of the following most certainly implies the need for an entire table to implement?

- ► A binary relationship
- ► **A ternary relationship** Click here for Detail
- ► A recursive relationship
- ► An identifying relationship

Question No: 5 (Marks: 1) - Please choose one
Which of the following constraints enforces entity integrity?

- ► PRIMARY KEY
- ► FOREIGN KEY
- ► CHECK
- ► **NOT NULL (Page 134)**

Question No: 6 (Marks: 1) - Please choose one
Which of the following is not true about relational tables?

- ► Column values are of the same kind.
- ► Each row is unique.
- ► Each column must have a unique name.
- ► **The sequence of rows is significant.** Click here for Detail

Question No: 7 (Marks: 1) - Please choose one
In a conceptual model for a university, what type of relationship exists between Grade and Student entities?

- ► 1:1
- ► **1:M** Click here for Detail
- ► M:M
- ► Ternary

Question No: 8 (Marks: 1) - Please choose one
Controlling redundancy in a database management system DOES NOT help to

- ► avoid duplication (Page 16)
- ► avoid unnecessary wastage of storage space
- ► **avoid unauthorised access to data** Click here for detail
- ► avoid inconsistency among data

Question No: 9 (Marks: 1) - Please choose one
Which of the following is INCORRECT with respect to file systems?

► At the physical level, pointer or hashed address scheme may be employed to provide a certain degree of data independence at the user level.

► A logical record is concerned with efficient storage of information in the secondary storage devices.

► Some physical organisations use pointers to record blocks to locate records on disk.

► The efficiency of a file system depends on how efficiently operations such as retrieve, insert, update, delete may be performed on the information stored in the file.

Question No: 10 (Marks: 1) - Please choose one

Which of the following functions are NOT performed by a database administrator?

► Planning, designing and implementing database systems

► Establishing standards and procedures for database systems

► **Communicating with database users (Page 26)**

► Allocation of storage locations and data structures

Question No: 11 (Marks: 1) - Please choose one

Select the correct statement about the ANSI/SPARC architecture.

► **The conceptual level is a level of indication between the internal level and the external level. (Page 33)**

► The internal level in a database system will definitely be relational.

► Any given database has many conceptual schemas and one physical schema, but it has only one external schemas.

► The external level is not concerned with individual user perceptions, while the conceptual level is concerned with a community user perception.

Question No: 12 (Marks: 1) - Please choose one

Which of the following is a correct way to implement one-to-many relationship while designing tables?

► **by splitting the data into two tables with primary key and foreign key relationships.**
Click here for Detail

► using a junction table with the keys from both the tables forming the composite primary key of the junction table.

► by splitting each table into three

► as a single table and rarely as two tables with primary and foreign key relationships.

Question No: 13 (Marks: 1) - Please choose one

Which of the following is not a benefit of normalization?

► Minimize insertion anomolies

► Minimize deletion anomolies

► Minimize updation anomolies

► **Maximize redundancy (Page 162)**

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Question No: 14 (Marks: 1) - Please choose one
Consider the following relation R and its sample data. (Consider that these are the only tuples for the given relation)

EmpNo	DeptNo	ProjNo
1001	01	12
1001	01	13
1002	01	12
1003	01	14

Which of the following statements is NOT correct?

- ► The functional dependency (EmpNo, DeptNo) -> ProjNo holds over R.
- ► The functional dependency EmpNo -> DeptNo holds over R.
- ► The functional dependency ProjNo -> DeptNo holds over R.
- ► **The functional dependency (EmpNo, ProjNo) -> DeptNo holds over R.**

Question No: 15 (Marks: 1) - Please choose one
The Entity Relation Model models

- ► Entities, Relationships and Processes
- ► **Entities and Relationships (Page 71)**
- ► Relationships
- ► Entities

Question No: 16 (Marks: 1) - Please choose one
As part of database naming conventions, attribute names should use suffixes such as ID, NUMBER or CODE for the _____.

- ► **primary key**
- ► foreign key
- ► index
- ► determinant

MIDTERM EXAMINATION
Spring 2010
CS403- Database Management Systems (Session - 4)

Question No: 1 (Marks: 1) - Please choose one
User rights information is stored in

- ► Physical database
- ► **Catalog (Page 46)**
- ► Logical database
- ► Buffer

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Question No: 2 (Marks: 1) - Please choose one
Making a change to the conceptual schema of a database but not affecting the existing external schemas is an example of

- ► Physical data independence.
- ► Concurrency control.
- ► **Logical data independence.** Click here for detail
- ► Functional dependency

Question No: 3 (Marks: 1) - Please choose one
Which of the following is NOT a feature of Context DFD?

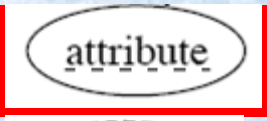
- ► one process (which represents the entire system)
- ► all sources/sinks (external entities)
- ► data flows linking the process to the sources and sinks (external entities)
- ► **sub-processes (which explain and decomposed the major process into small processes) (Page 62) rep**

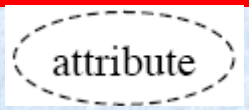
Question No: 4 (Marks: 1) - Please choose one
A relation (from the relational database model) consists of a set of tuples, which implies that

- ► **all tuples in a relation must be distinct. (Page 129)**
- ► relational model supports multi-valued attributes whose values can be represented in sets.
- ► for any two tuples, the values associated with all of their attributes may be the same.
- ► all tuples in a particular relation may have different attributes.

Question No: 5 (Marks: 1) - Please choose one
Choose the symbol that corresponds to a discriminator attributes.

- ► 

- ► 

Click here for detail
- ► 

- ► 

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Question No: 6 (Marks: 1) - Please choose one
Identify the constraint that limits the values that can be placed in a column.

► NOT NULL
► **CHECK** Click here for Detail
► FOREIGN KEY
► UNIQUE

Question No: 7 (Marks: 1) - Please choose one
Given are the relations of student and Instructor

Student

First Name	Last Name
Saman	Perera
Romesh	Dias
Jeeva	Silva
Nadee	Alwis
Kumari	Costa
Geetha	Zoysa
Prasad	Fernando

Instructor

Fname	Lname
Ajith	Gamage
Sujith	Hewage
Saman	Perera
Kasun	Peiris
Romesh	Dias

Consider the following table obtained using Student and Instructor relations.

Fname	Lname
Ajith	Gamage
Sujith	Hewage
Kasun	Peiris

Which relational algebra operation could have been applied on the pair of relations Student and Instructor to obtain the above data?

► **Instructor – Student**
► Student ∩ Instructor
► Instructor ÷ Student
► Student – Instructor

Question No: 8 (Marks: 1) - Please choose one
Identify the correct statement with respect to normalization.

► Normalization is a formal technique that can be used only at the starting phase of the database design.
► **Normalization can be used as a top-down standalone database design technique.**
Click here for detail
► The process of normalization through decomposition must achieve the lossless join property at any cost whereas the dependency reservation property is sometimes sacrificed.
► The process of normalization through decomposition must achieve the dependency reservation property at any cost whereas the lossless join property is sometimes sacrificed.

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Question No: 9 (Marks: 1) - Please choose one
Consider the relation Interview(CandidateNo, InterviewDate, InterviewTime, StaffNo, RoomNo) and the following functional dependencies.
FD1 : CandidateNo, InterviewDate -> InterviewTime, StaffNo, RoomNo
FD2 : RoomNo, InterviewDate, InterviewTime -> StaffNo, CandidateNo
FD3 : StaffNo, InterviewDate -> RoomNo
Which of the following is correct?

► **The relation Interview is in 3NF** Click here for detail
► The relation Interview is in BCNF.
► The FD3 violates 3NF.
► The FD2 violates 2NF.

Question No: 10 (Marks: 1) - Please choose one
Identify the INCORRECT statement among the given.
► An entity may be an object with a physical existence like a car, a house or an Employee.
► **One cannot consider something which has conceptual existence like a course in a degree program as an entity. (Page 71)**
► Age can be considered as a single value attribute of a person.
► An entity type describes the schema or intension for a set of entities which share the same structure.

Question No: 11 (Marks: 1) - Please choose one
Structural constraints of a relationship type refer to

► identifying the owner entity type relevant to a given entity type
► **whether the existence of an entity depends on it being related to another entity via the relationship type.** Click here for detail
► the role that a participating entity from the entity type plays in each relationship instance.
► the constraints applicable in granting access to tables, columns and views in a database schema.

Question No: 12 (Marks: 1) - Please choose one
A collection of concepts that can be used to describe the structure of a database

► Database
► DBMS
► **Data model** Click here for Detail (Page 68)
► Data

Question No: 13 (Marks: 1) - Please choose one
An entity can be logically connected to another by defining a ____.
► hyperlink
► **common attribute** Click here for detail
► primary key
► superkey

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Question No: 14 (Marks: 1) - Please choose one
The ____ constraint specifies whether each entity supertype occurrence must also be a member of at least one subtype.

► specialization
► uniqueness
► inheritance
► **completeness** Click here for Detail

Question No: 15 (Marks: 1) - Please choose one
Database management systems, operating systems, applications and utilities are all examples of ____.

► hardware
► **software** Click here for detail
► computer infrastructure
► input and output

Question No: 16 (Marks: 1) - Please choose one
Which of the following concepts is applicable with respect to 2NF?

► **Full functional dependency** Click here for detail
► Any kind of dependency
► Transitive dependency
► Non-transitive dependency

MIDTERM EXAMINATION Spring 2010
CS403- Database Management Systems (Session - 4)

Question No: 1 (Marks: 1) - Please choose one
A database system allows the following EXCEPT

► management and control of data towards an efficient working of an organisation.
► more critical functions in organisations to be computerised and the need to keep a large volume of data available in an up to the minute current state increased.
► **any user to access all its data.**
► integration of data across multiple applications into a single application.

Question No: 2 (Marks: 1) - Please choose one
User rights information is stored in

► Physical database
► **Catalog (Page 46) rep**
► Logical database
► Buffer

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Question No: 3 (Marks: 1) - Please choose one
The ER- data model is an example of:

► Physical database
► Logical database
► Relational database
► **Conceptual database** Click here for Detail

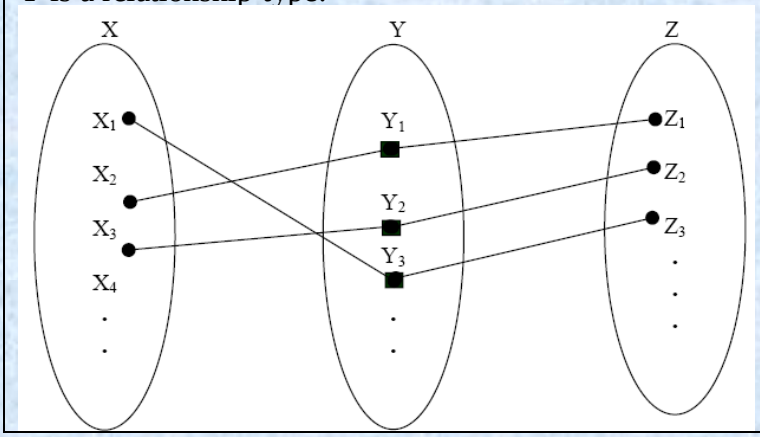
Question No: 4 (Marks: 1) - Please choose one
Which of the following is true about NOT NULL constraint?

► enforce domain integrity
► limit the values that can be placed in a column.
► **prevents any actions that would destroy links between tables with the corresponding data values**
Click here for detail
► enforces the uniqueness of the values in a set of columns

Question No: 5 (Marks: 1) - Please choose one
Consider the relation Interview(CandidateNo, InterviewDate, InterviewTime, StaffNo, RoomNo) and the following functional dependencies.
FD1 : CandidateNo, InterviewDate -> InterviewTime, StaffNo, RoomNo
FD2 : RoomNo, InterviewDate, InterviewTime -> StaffNo, CandidateNo
FD3 : StaffNo, InterviewDate -> RoomNo

Which of the following is correct?
► The relation Interview is in BCNF.
► The FD3 violates 3NF.
► The FD3 violates BCNF.
► The FD2 violates 2NF.

Question No: 6 (Marks: 1) - Please choose one
Consider the following diagram depicting a kind of a relationship type where X and Z are entities and Y is a relationship type:



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Select the correct statement among the following on the above diagram.

► **The relationship type Y is of cardinality ratio 1 : N.** Click here for Detail
► The diagram depicts existence dependencies.
► The participation of X in the Y relationship type is total.
► The participation of Z in the Y relationship type is partial.

Question No: 7 (Marks: 1) - Please choose one
Select the correct statement among the following.
► Role names are not technically necessary in relationship types when all the participating entity types are distinct.
► **When different entity types participate only once in a single relationship type it is called a recursive relationship. (Page 87)**
► Cardinality ratios for binary relationship are displayed on Entity Relationship Diagrams by using a diamond shape notation.
► Partial participation which is also called existence dependency is displayed as a double line connecting the participating entity type to the relationship.

Question No: 8 (Marks: 1) - Please choose one
Which of the following is true about relational schema?
► The sequence of columns is significant
► The sequence of rows is significant.
► Contains only derived attributes.
► **Values are atomic. (Page 127)**

Question No: 9 (Marks: 1) - Please choose one
Consider the given relations Student and Instructor as given below. Please note that Fname and Lname also denote the First Name and Last Name respectively.

Student

First Name	Last Name
Saman	Perera
Romesh	Dias
Jeeva	Silva
Nadee	Alwis
Kumari	Costa
Geetha	Zoysa
Prasad	Fernando

Instructor

Fname	Lname
Ajith	Gamage
Sujith	Hewage
Saman	Perera
Kasun	Peiris
Romesh	Dias

Which of the following statements is correct with respect to the two relations given above?
► The two relations are not union-compatible since their attribute names differ.
► **The set operations such as CARTESIAN PRODUCT and DIVISION can be applied on these two relations.**
► To find out those students who work as instructors, it is necessary to perform the operation Student ∩ Instructor.
► To find out the students who are not instructors, it is necessary to perform the operation Student ÷ Instructor.

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Question No: 11 (Marks: 1) - Please choose one Consider the following relation R and its sample data. (Consider that these are the only tuples for the given relation)

EmpNo	DeptNo	ProjNo
1001	01	12
1001	01	13
1002	01	12
1003	01	14

Which of the following statements is NOT correct?

► The functional dependency ProjNo -> DeptNo holds over R.
► **The functional dependency (EmpNo, ProjNo) -> DeptNo holds over R.**
► The functional dependency DeptNo -> ProjNo holds over R.
► The functional dependency EmpNo -> DeptNo holds over R.

Question No: 12 (Marks: 1) - Please choose one

A collection of related data is

► Logical model
► **Database** **(Page 10)**
► Data
► Relational model

Question No: 13 (Marks: 1) - Please choose one

A weak entity type

► must have total participation in an identifying relationship
► does not have a key attribute(s)
► **both (a) and (b)** **Click here for detail**
► none of the above

Question No: 14 (Marks: 1) - Please choose one

A description on a particular collection of data using the given data model

► Database
► **Schema** **(Page 18)**
► None of the above.
► Relation

Question No: 15 (Marks: 1) - Please choose one

If K is a foreign key in relation R1, then

► every tuple of R1 has a distinct value for K.
► K cannot have a null value for tuples in R1.
► K is a key for some other relation. Click here for detail
► K is a primary key for R1.

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Question No: 16 (Marks: 1) - Please choose one

Consider the following statements.

A. An entity integrity constraint states that no primary key value can be null.

B. A referential integrity constraint is specified between two relations.

C. A foreign key cannot be used to refer to its own relation.

Identify which of the above statements is/are correct.

► **Only A (Page 134)**

► Only B

► B and C

► A and B

MIDTERM EXAMINATION 2010

CS403- Database Management Systems

Question No: 1 (Marks: 1) - Please choose one

Which of the following constraints enforces entity integrity?

►PRIMARY KEY

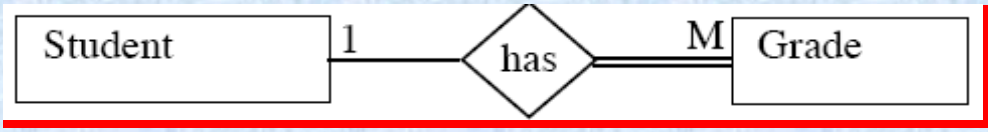
►FOREIGN KEY

►CHECK

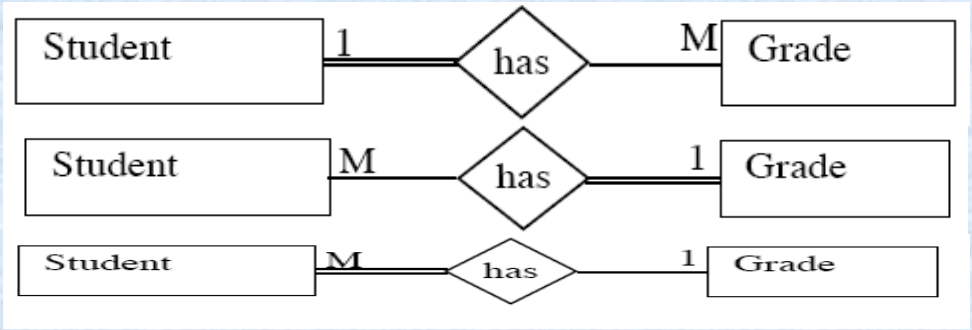
►**NOT NULL (Page 134) rep**

Question No: 2 (Marks: 1) - Please choose one

Which one of the following E-R diagrams most correctly represents the relationship between Student and Grade entities?



Click here for detail



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Question No: 3 (Marks: 1) - Please choose one
Which of the following constraints enforces entity integrity?

► PRIMARY KEY
► FOREIGN KEY
► CHECK
► NOT NULL **(Page 134) rep**

Question No: 4 (Marks: 1) - Please choose one
Which of the following enforces a relation into 1st normal form?

► **The domain of attribute must include only atomic values. (Page 167)**
► Every non-key attribute is fully functionally dependent on primary key
► non-key attribute is non-transitively dependent on primary key.
► Every non-key attribute is partially dependent on super key

Question No:5 (Marks: 1) - Please choose one
Consider the following set of functional dependencies (FDs) on the following relational schema.
Emp_No -> {Ename, Bdate, Address, Dept_No}
Dept_No -> {Dname, Mgr_No}
The additional FD which can be inferred from the above set of FDs is

►Emp_No -> {Dname, Mgr_No}
►Emp_Name -> Dept_No .
►Emp_Name -> Dept_Name .
►Emp_Name, Dept_No -> Mgr_No .

Question No: 6 (Marks: 1) - Please choose one
Which of the following is a feature of PRIMARY KEY constraint?

►**unique identifier for a row within a database table.** Click here for Detail
►allow any actions that would destroy links between tables
►limit the values that can be placed in a column.
►enforces that the column will only accept null values.

Question No: 7 (Marks: 1) - Please choose one
Structural constraints of a relationship type refer to

► identifying the owner entity type relevant to a given entity type
► **whether the existence of an entity depends on it being related to another entity via the relationship type.** Click here for detail
► the role that a participating entity from the entity type plays in each relationship instance.
► the constraints applicable in granting access to tables, columns and views in a database schema.

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Which of the following is true about relational schema?

► The sequence of columns is significant
► The sequence of rows is significant.
► Contains only derived attributes.
► **Values are atomic. (Page 127) rep**

Question No: 9 (Marks: 1) - Please choose one
A ____ relationship exists when an association is maintained within a single entity.

►**unary (Page 144)**
►ternary
►binary
►weak

Question No: 10 (Marks: 1) - Please choose one
Which of the following is a correct way to implement one-to-many relationship while designing tables?

► **by splitting the data into two tables with primary key and foreign key relationships**.
Click here for Detail
► using a junction table with the keys from both the tables forming the composite primary key of the junction table.
► by splitting each table into three
► as a single table and rarely as two tables with primary and foreign key relationships.

Question No: 11 (Marks: 1) - Please choose one
Identify the correct statement.

► Entity integrity constraints specify that primary key values can be composite.
► **Entity integrity constraints are specified on individual relations.** Click here for detail
► Entity integrity constraints are specified between weak entities.
► When entity integrity rules are enforced, a tuple in one relation that refers to another relation must refer to an existing tuple.

Question No: 12 (Marks: 1) - Please choose one
A software package designed to store and manage databases

►Database
►**DBMS (Page 18)**
►Data model
►Data

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Question No: 13 (Marks: 1) - Please choose one
Who is responsible for authorizing access to the database, for coordinating and monitoring its use?
Select correct option:

►Database Designer
►**Database Administrator (Page 26)**
►End User
►Application Programmer

Question No: 14 (Marks: 1) - Please choose one
Consider the following relation R and its sample data. (Consider that these are the only tuples for the given relation)

EmpNo	DeptNo	ProjNo
1001	01	12
1001	01	13
1002	01	12
1003	01	14

Which of the following statements is NOT correct?

► The functional dependency (EmpNo, DeptNo) -> ProjNo holds over R.
► The functional dependency EmpNo -> DeptNo holds over R.
► The functional dependency ProjNo -> DeptNo holds over R.
► **The functional dependency (EmpNo, ProjNo) -> DeptNo holds over R.**

Question No: 15 (Marks: 1) - Please choose one
Which of the following statements is NOT correct?

► The functional dependency (EmpNo, DeptNo) -> ProjNo holds over R.
► The functional dependency EmpNo -> DeptNo holds over R.
► The functional dependency ProjNo -> DeptNo holds over R.
► **The functional dependency (EmpNo, ProjNo) -> DeptNo holds over R.**

Question No: 16 (Marks: 1) - Please choose one
Which feature of database provides conversion from inconsistent state of DB to a consistent state ensuring minimum data loss?
Select correct option:

►User accessible catalog
►Data processing
►**Recovery service (Page 47)**
►Authorization service

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MIDTERM EXAMINATION
Spring 2010
CS403- Database Management Systems (Session - 6)

Question No: 1 (M a r k s: 1)
Consider the following statements.
A. Conceptual schema which is the result of conceptual design is a logical description of all data elements and their relationships.
B. Internal level of the database architecture consists of the physical view of the database.
C. External level of the database architecture provides the user view of the database.

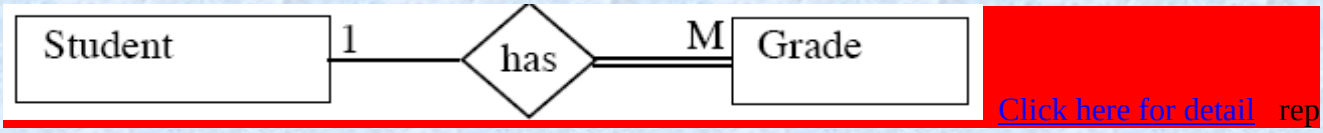
With respect to the ANSI/SPARC three level database architecture, which of the above is/are correct?

- ► Only A.
- ► Only C.
- ► Only A and B.
- ► **Only B and C. (Page 40)**

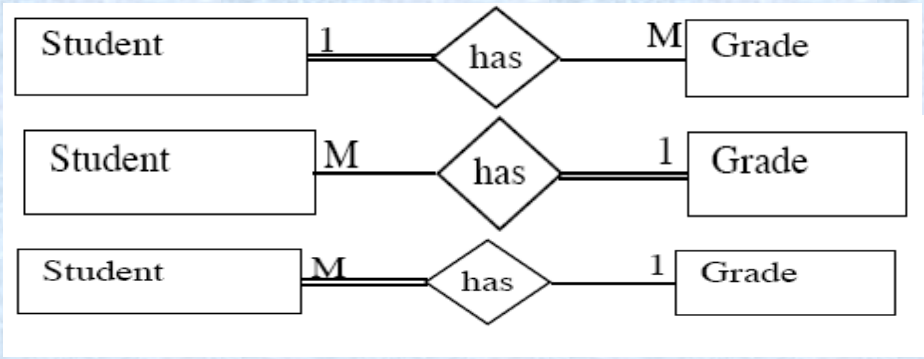
Question No: 2 (M a r k s: 1)
The ER- data model is an example of:

- ► Physical database
- ► Logical database
- ► Relational database
- ► **Conceptual database** Click here for Detail rep

Question No: 3 (M a r k s: 1)
Which one of the following E-R diagrams most correctly represents the relationship between Student and Grade entities?



Click here for detail rep



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Question No: 4 (M a r k s: 1)

Which of the following constraints enforces referential integrity?

- ► **FOREIGN KEY (Page 134)**
- ► CHECK
- ► PRIMARY KEY
- ► UNIQUE

Question No: 5 (M a r k s: 1)

Given are the relations of student and Instructor

Student

First Name	Last Name
Saman	Perera
Romesh	Dias
Jeeva	Silva
Nadee	Alwis
Kumari	Costa
Geetha	Zoysa
Prasad	Fernando

Instructor

Fname	Lname
Ajith	Gamage
Sujith	Hewage
Saman	Perera
Kasun	Peiris
Romesh	Dias

Consider the following table obtained using Student and Instructor relations.

Fname	Lname
Ajith	Gamage
Sujith	Hewage
Kasun	Peiris

Which relational algebra operation could have been applied on the pair of relations Student and Instructor to obtain the above data?

- ► **Instructor – Student**
- ► Student ∩ Instructor
- ► Instructor ÷ Student
- ► Student – Instructor

Question No: 6 (M a r k s: 1)

Consider the relation Interview (CandidateNo, InterviewDate, InterviewTime, StaffNo, RoomNo) and the following functional dependencies.

FD1 : CandidateNo, InterviewDate -> InterviewTime, StaffNo, RoomNo

FD2 : RoomNo, InterviewDate, InterviewTime -> StaffNo, CandidateNo

FD3 : StaffNo, InterviewDate -> RoomNo

Which of the following is correct?

- ► **The relation Interview is in 3NF** Click here for detail
- ► The relation Interview is in BCNF.
- ► The FD3 violates 3NF.
- ► The FD2 violates 2NF.

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Question No: 7 (M a r k s: 1)

Which of the following is INCORRECT statement concerning the database design process?

► During requirements collection and analysis phase, one can gather the data requirements of database users.

► By referring to a high level data model, it is possible to understand the data requirements of the users, entity types, relationships and constraints.

► Transformation of the high level data model into the implementation data model is called logical design or data model mapping.

► During the logical design phase of internal storage structures, access paths and file organization for the database files are specified. (Page 53)

Question No: 8 (M a r k s: 1)

Consider the following diagram depicting a kind of a relationship type where X and Z are entities and Y is a relationship type:

Select the correct statement among the following on the above diagram.

► The relationship type Y is of cardinality ratio 1 : N. Click here for Detail **rep**

► The diagram depicts existence dependencies.

► The participation of X in the Y relationship type is total.

► The participation of Z in the Y relationship type is partial.

Question No: 9 (M a r k s: 1)

Identify the correct statement.

► Entity integrity constraints specify that primary key values can be composite.

► Entity integrity constraints are specified on individual relations. Click here for detail rep

► Entity integrity constraints are specified between weak entities.

► When entity integrity rules are enforced, a tuple in one relation that refers to another relation must refer to an existing tuple.

Question No: 10 (M a r k s: 1)

Identify the correct statement.

► Referential integrity constraints check whether the primary key values are unique.

► Referential integrity constraints check whether an attribute value lies in the given range.

► Referential integrity constraints are specified between entities having recursive relationships.

► When Referential integrity rules are enforced, a tuple in one relation that refers to another relation must refer to an existing tuple. (Page 134)

Question No: 11 (M a r k s: 1)

Identify the correct way to implement one-to-one relationship in tables?

► by splitting the data into two tables with primary key and foreign key relationships.

► as a single table and rarely as two tables with primary and foreign key relationships.

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Click here for Detail
► using a junction table with the keys from both the tables forming the composite primary key of the junction table.
► by creating two separate tables

Question No: 12 (M a r k s: 1)
A collection of related data is

► Logical model
► **Database (Page 10) rep**
► Data
► Relational model

Question No: 13 (M a r k s: 1)
A collection of concepts that can be used to describe the structure of a database

► Database
► DBMS
► **Data model** Click here for Detail (Page 68)
► Data

Question No: 14 (M a r k s: 1)
A superkey that does not contain a subset of attributes that is itself a superkey is called a ____.

► **candidate key (Page 82)**
► primary key
► superkey
► secondary key

Question No: 15 (M a r k s: 1)
As part of database naming conventions, attribute names should use suffixes such as ID, NUMBER or CODE for the _____.
► **primary key**
► foreign key
► index
► determinant

Question No: 16 (M a r k s: 1)
Which of the following concepts is applicable with respect to 2NF?
► **Full functional dependency** Click here for detail
► Any kind of dependency
► Transitive dependency
► Non-transitive dependency

MIDTERM EXAMINATION
Spring 2010
CS403- Database Management Systems (Session - 1)

Question No: 1 (Marks: 1) - Please choose one
Which of the following functions are NOT performed by a database administrator?
► Planning, designing and implementing database systems
► Establishing standards and procedures for database systems
► **Communicating with database users (Page 26) rep**
► Allocation of storage locations and data structures

Question No: 2 (Marks: 1) - Please choose one
Identify the factor which enforces a relation in 3NF?
► Every non-key attribute is fully functionally dependent on primary key
► Every non-key attribute is partially dependent on super key
► **The domain of attribute must include only atomic values. (Page 167)**
► Every non-key attribute is non-transitively dependent on primary key.

Question No: 3 (Marks: 1) - Please choose one
Consider two sets A and B. A contains 2 elements and B contains 3. How many elements do their cartesian product contains?

► **6 (Page 129)**
► 9
► 5
► 4

Question No: 4 (Marks: 1) - Please choose one
Identify the operation which is NOT one of the parts of the five basic set operations in relational algebra?

► **Join** Click here for Detail
► Union
► Cartesian Product
► Set Difference

Question No: 5 (Marks: 1) - Please choose one
Consider the following statements.
A. An entity integrity constraint states that no primary key value can be null.
B. A referential integrity constraint is specified between two relations.
C. A foreign key cannot be used to refer to its own relation.

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Identify which of the above statements is/are correct.

► **Only A (Page 134) rep**
► Only B
► Only B and C
► Only A and B

Question No: 6 (Marks: 1) - Please choose one
User rights information is stored in

► Physical database
► **Catalog (Page 46) rep**
► Logical database
► Buffer

Question No: 7 (Marks: 1) - Please choose one
Given are the relations of student and Instructor

Student

First Name	Last Name
Saman	Perera
Romesh	Dias
Jeeva	Silva
Nadee	Alwis
Kumari	Costa
Geetha	Zoysa
Prasad	Fernando

Instructor

Fname	Lname
Ajith	Gamage
Sujith	Hewage
Saman	Perera
Kasun	Peiris
Romesh	Dias

Consider the following table obtained using Student and Instructor relations.

Fname	Lname
Ajith	Gamage
Sujith	Hewage
Kasun	Peiris

Which relational algebra operation could have been applied on the pair of relations Student and Instructor to obtain the above data?

► **Instructor – Student**
► Student ∩ Instructor
► Instructor ÷ Student
► Student – Instructor

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Question No: 8 (Marks: 1) - Please choose one
Which one is the corrected way to implement M to M relation which designing data base

► using junction table with keys
► By splitting data into tables with PK and FK
► As a single table rarly as to tables with PK and FK
►By creating three tables and linking them through PK and FK

Question No: 9 (Marks: 1) - Please choose one
Which enforce the a relation into 2NF User rights information is stored in

► Physical database
► **Catalog (Page 46) rep**
► Logical database
► Buffer

Question No: 10 (Marks: 1) - Please choose one
Which of the following concepts is applicable with respect to 3NF?

► Full functional dependency
► Any kind of dependency
► **Transitive dependency (Page 172)**
► Partial functional dependency

Question No: 11 (Marks: 1) - Please choose one
Description on particular collection of data using data model

► **Schema** Click here for Detail **(Page 19)**
► Relation
►Data base
► None of the above

Question No: 12 (Marks: 1) - Please choose one
Which one is true regarding relation?

► Every attribute value Non atomic
► Attribute in table may not have unique name
►table order of the column is relevant
► **the order of the rows is irrelevant** Click here for detail

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MIDTERM EXAMINATION
Fall 2010
CS403- Database Management Systems

Question No: 1 (Marks: 1) - Please choose one
Which of the following is not a benefit of normalization?

► Minimize insertion anomolies
► Minimize deletion anomolies
► Minimize updation anomolies
► **Maximize redundancy (Page 162) rep**

Question No: 2 (Marks: 1) - Please choose one
Controlling redundancy in a database management system DOES NOT help to

► **avoid duplication (Page 16) rep**
► avoid unnecessary wastage of storage space
► **avoid unauthorized access to data** Click here for detail
► avoid inconsistency among data

Question No: 3 (Marks: 1) - Please choose one
In a conceptual database model, which of the following most likely represents a valid identifier for a class grades?
► StudentID
► StudentID, CourseID
► StudentID, CourseID, InstructorID
► **StudentID, CourseSectionID** Click here for Detail

Question No: 4 (Marks: 1) - Please choose one
Identify the operation which is NOT one of the parts of the five basic set operations in relational algebra?
► **Join** Click here for Detail **rep**
► Union
► Cartesian Product
► Set Difference

Question No: 5 (Marks: 1) - Please choose one
Making a change to the conceptual schema of a database but not affecting the existing external schemas is an example of
► Physical data independence.
► Concurrency control.
► **Logical data independence.** Click here for detail
► Functional dependency

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Question No: 6 (Marks: 1) - Please choose one
Select the correct statement among the following on proper naming of schema constructs:
► Entity type name applies to all the entities belonging to that entity type and therefore a plural name is selected for entity type.
► **In the narrative description of the database requirements, verbs tend to indicate the names of relationship types.** Click here for Detail
► The nouns arising from a database requirement description can be considered as names of attributes.
► Additional nouns which are appearing in the narrative description of the database requirements represent the weak entity type names.

Question No: 7 (Marks: 1) - Please choose one
Identify the constraint that limits the values that can be placed in a column.
► Not null
► **Check** Click here for Detail **rep**
► Foreign Key
► Unique

Question No: 8 (Marks: 1) - Please choose one
Identify the INCORRECT statement among the given.
► An entity may be an object with a physical existence like a car, a house or an Employee.
► **One cannot consider something which has conceptual existence like a course in a degree program as an entity. (Page 71) rep**
► Age can be considered as a single value attribute of a person.
► An entity type describes the schema or intension for a set of entities which share the same structure.

Question No: 9 (Marks: 1) - Please choose one
Select the correct statement among the following.
► Role names are not technically necessary in relationship types when all the participating entity types are distinct.
► **When different entity types participate only once in a single relationship type it is called a recursive relationship. (Page 87) rep**
► Cardinality ratios for binary relationship are displayed on Entity Relationship Diagrams by using a diamond shape notation .
► Partial participation which is also called existence dependency is displayed as a double line connecting the participating entity type to the relationship .

Question No: 10 (Marks: 1) - Please choose one
If W, X, Y and Z are attributes of a relation, which of the following inference rules for functional dependencies is correct?

► If (X, Z) -> Y then X -> Y and Z -> Y.
► **If X -> Y and X -> Z then X -> (Y, Z).**
► If X Y then Y -> X
► If X -> Y then (X, Z) -> (Y,W).

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Question No: 11 (Marks: 1) - Please choose one
Which of the following is not a benefit of normalization?

► Minimize insertion anomolies
► Minimize deletion anomolies
► Minimize updation anomolies
► **Maximize redundancy (Page 162) rep**

Question No: 12 (Marks: 1) - Please choose one
A candidate key that does not have a null value and is selected to uniquely identify all other attribute values in any given row is called a .

► superkey
► candidate key
► **primary key** Click here for Detail
► secondary key

Question No: 13 (Marks: 1) - Please choose one
Incase of Context-level Diagram, the system is represented by
Select correct option:

►**One process atleast** Click here for Detail
►Two processes atleast
►One process only
►Any number of processes

Question No: 14 (Marks: 1) - Please choose one
A _____ is used to maintain a connection between the users of the database system.

Select correct option:
►Mail server
►**File Server** Click here for detail
►Client-server
►None of the given.

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MIDTERM EXAMINATION
Fall 2008
CS403- Database Management Systems (Session - 2)

Question No: 1 (Marks: 1) - Please choose one
Which of the following is not a benefit of normalization?

- ► Minimize insertion anomolies
- ► Minimize deletion anomolies
- ► Minimize updation anomolies
- ► **Maximize redundancy (Page 162) rep**

Question No: 2 (Marks: 1) - Please choose one
Which of the following is NOT a component of a DFD?

- ► Dataflow
- ► Datastore
- ► External entities
- ► **Relationship between external entities (Page 57)**

Question No: 3 (Marks: 1) - Please choose one
Which of the following is correct regarding Dataflow diagram?

- ► Single DFD is required to represent a system
- ► The dataflow must be bidirectional
- ► **Created at increasing levels of detail** Click here for Detail
- ►Used to represent the relationships among the external entities

Question No: 4 (Marks: 1) - Please choose one
Which of the following is CORRECT about database management system's languages?

- ► Data definition languages are used to specify the conceptual schema only.
- ► Data manipulation languages are used to create the databases.
- ► **Data manipulation languages are used for retrieval, insertion, deletion and modification of data.**

Click here for Detail

- ► Data definition langauges are only used to update data in the DBMS.

Question No: 5 (Marks: 1) - Please choose one
Controlling redundancy in a database management system DOES NOT help to

- ► avoid duplication
- ► **avoid unnecessary wastage of storage space** Click here for detail
- ► avoid unauthorised access to data
- ► avoid inconsistency among data

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Question No: 6 (Marks: 1) - Please choose one
Which of the following concepts is applicable with respect to 3NF?

► Full functional dependency
► Any kind of dependency
► **Transitive dependency (Page 172)**
► Partial functional dependency

Question No: 7 (Marks: 1) - Please choose one
Consider two sets A and B. A contains 3 elements and B contains 4. How many elements do their Cartesian product contains?

► **12 (Page 129)**
► 9
► 16
► 7

Question No: 8 (Marks: 1) - Please choose one
Consider two sets A and B. A contains 2 elements and B contains 3. How many elements do their cartesian product contains?

► **6 (Page 129)**
► 9
► 4
► 5

Question No: 9 (Marks: 1) - Please choose one
In a conceptual database model, which of the following most likely represents a valid identifier for a class grades?

► StudentID
► StudentID, CourseID
► StudentID, CourseID, InstructorID
► **StudentID, CourseSectionID** Click here for Detail rep

Question No: 10 (Marks: 1) - Please choose one
Identify the correct statement with respect to normalization.

► Normalization is a formal technique that can be used only at the starting phase of the database design.
► **Normalization can be used as a top-down standalone database design technique**. Click here for detail
rep
► The process of normalization through decomposition must achieve the lossless join property at any cost whereas the dependency reservation property is sometimes sacrificed.
► The process of normalization through decomposition must achieve the dependency reservation property at any cost whereas the lossless join property is sometimes sacrificed.

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Question No: 11 (Marks: 1) - Please choose one
Consider the following relation and its sample data. (Consider that these are the only tuples for the given relation)

EmpNo	DeptNo	ProjNo
1001	01	12
1001	01	13
1002	01	12
1003	01	14

Which of the following statements is NOT correct?

- ► The functional dependency DeptNo -> ProjNo holds over R.
- ► The functional dependency EmpNo -> DeptNo holds over R.
- ► The functional dependency ProjNo -> DeptNo holds over R.
- ► **The functional dependency (EmpNo, ProjNo) -> DeptNo holds over R.**

Question No: 12 (Marks: 1) - Please choose one
Which of the following is not true about relational tables?

- ► Column values are of the same kind.
- ► Each row is unique.
- ► Each column must have a unique name.
- ► **The sequence of rows is significant.** Click here for Detail **rep**

Question No: 13 (Marks: 1) - Please choose one
Identify the operation which is NOT one of the parts of the five basic set operations in relational algebra?

- ► **Join** Click here for Detail **rep**
- ► Union
- ► Cartesian Product
- ► Set Difference

Question No: 14 (Marks: 1) - Please choose one
Consider the following statements.
A. An entity integrity constraint states that no primary key value can be null.
B. A referential integrity constraint is specified between two relations.
C. A foreign key cannot be used to refer to its own relation.

Identify which of the above statements is/are correct.

- ► **Only A (Page 134) rep**
- ► Only B
- ► Only B and C
- ► Only A and B

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Question No: 15 (Marks: 1) - Please choose one
If K is a foreign key in relation R1, then

- ► every tuple of R1 has a distinct value for K.
- ► K cannot have a null value for tuples in R1.
- ► **K is a key for some other relation.** Click here for detail **rep**
- ► K is a primary key for R1.

Question No: 16 (Marks: 1) - Please choose one
Making a change to the conceptual schema of a database but not affecting the existing external schemas is an example of

- ► Physical data independence.
- ► Concurrency control.
- ► **Logical data independence.** Click here for detail **rep**
- ► Functional dependency

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CS403 - Database Management Systems

Grand Quiz 2020 (Covid19)

Solved By Sonu Ilyas Mughal

Sonu Ilyas Mughal

Sonu Ilyas Mughal

03063548328
3 FOR Solving Quiz
VU-Tech Soft

CS403:Grand Quiz

Question # 1 of 30 (Start time: 10:10:37 PM, 09 July 2020)

In many to many relationship a third table is created for the relationship, which is also called as_____.

Select the correct option

- ○ Binary relation
- ● Associative entity type
- ○ Unary relationship

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4 FOR Solving Quiz
VU-Tech Soft

Question # 3 of 30 (Start time: 10:13:07 PM, 09 July 2020)

The conceptual database design is drawn through_____.

Select the correct option

- Data model
- E-R model
- Database design

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5 FOR Solving Quiz
VU-Tech Soft

Question # 4 of 30 (Start time: 10:14:25 PM, 09 July 2020)

The maximum PL/SQL size of data type "VARCHAR2" in DBMS is _____ bytes.

Select the correct option

- 42767
- 52767
- 32767

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6 FOR Solving Quiz

VU-Tech Soft

Question # 3 of 30 (Start time: 10:10:17 PM, 05 July 2020)

_____ are those attributes that are a combination of two or more than two attributes.

Select the correct option

- Default value
- Null value
- Primary key
- Composite Attributes

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7 FOR Solving Quiz

VU-Tech Soft

Question # 6 of 30 (Start time: 10:15:32 PM, 09 July 2020)

A relation is said to be in BCNF when

Select the correct option

- (●) it has overlapping composite keys
- ( ) it has no composite keys
- ( ) it has no multivalued dependencies

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8 FOR Solving Quiz

VU-Tech Soft

Question # 7 of 30 (Start time: 10:16:36 PM, 09 July 2020)

Unary relationship involve a single entity it is also called_____.

Select the correct option

- One to one relationship
- One to many relationship
- Many to many relationship

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9 FOR Solving Quiz
VU-Tech Soft

Question # 8 of 30 (Start time: 10:17:03 PM, 09 July 2020)

In cross reference matrix attributes are mention on _____ and reports are mention on _____.

Select the correct option

- Y axis, X axis
- Y axis, Z axis
- X axis, Y axis

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10 FOR Solving Quiz

VU-Tech Soft

Question # 9 of 30 (Start time: 10:18:28 PM, 09 July 2020)

Each _____ of a table contains atomic/single value.

Select the correct option

- (●) Cell
- ( ) Row
- ( ) Column

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11 FOR Solving Quiz
VU-Tech Soft

Question # 10 of 30 (Start time: 10:18:54 PM, 09 July 2020)

Each component of DBMS performs _____ functions.

Select the correct option

- ○ Similar
- ● Different
- Identical

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12 FOR Solving Quiz
VU-Tech Soft

Question # 11 of 30 (Start time: 10:19:37 PM, 09 July 2020)

Which database design represents the structure of the database?

Select the correct option

- Conceptual
- Internal
- External

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13 FOR Solving Quiz
VU-Tech Soft

Question # 12 of 30 (Start time: 10:20:58 PM, 09 July 2020)

A collection of concepts that can be used to describe the structure of a database

Select the correct option

- Database
- DBMS
- Data model

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14 FOR Solving Quiz
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Question # 13 of 30 (Start time: 10:21:37 PM, 09 July 2020)

Which of the following does not belong to the Semantic Data Model.

Select the correct option

○	ER- Data Model
●	Network Data model
	Object oriented data model

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Question # 14 of 30 (Start time: 10:23:06 PM, 09 July 2020)

Suppose, we have two entities “Shape” and “Triangle”, then which of the following is a correct statement?

Select the correct option

- (●) Shape is a super type entity and Triangle is a sub type entity
- ( ) Shape is a sub type entity and Triangle is a super type entity
- ( ) Shape and Triangle both are super type entities
- ( ) Shape and Triangle both are sub type entities

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Question # 16 of 30 (Start time: 10:25:25 PM, 09 July 2020)

Relational Calculus is a _____ relational data manipulation language.

Select the correct option

- Procedural, Informal
- Non-Procedural, Informal
- Procedural, Formal

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Question # 17 of 30 (Start time: 10:26:23 PM, 09 July 2020)

Which constraint is generally used for efficiency purposes in the data entry process?

Select the correct option

- Null value
- Integer value
- Default value

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Question # 18 of 30 (Start time: 10:27:00 PM, 09 July 2020)

Candidate keys which are not selected as primary key are called_____

Select the correct option

- Secondary Keys
- Foreign Keys
- Alternate Keys

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Question # 19 of 30 (Start time: 10:27:33 PM, 09 July 2020)

In an ERD, the focus is on the ____ and the relationships between them.

Select the correct option

- attributes
- entities
- keys

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Question # 20 of 30 (Start time: 10:28:22 PM, 09 July 2020)

The entity that is NOT dependent on any other entity for its existence is known as _____ entity.

Select the correct option

- Weak
- Strong
- Derived
- Dependent

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Question # 21 of 30 (Start time: 10:28:44 PM, 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

- ○ Select operator
- ○ Project operator
- ● Join operation
- ○ Delete operator

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Question # 22 of 30 (Start time: 10:29:53 PM, 09 July 2020)

A software package designed to store and manage databases

Select the correct option

- ○ Database
- ● DBMS
- ○ Data model

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Question # 23 of 30 (Start time: 10:30:24 PM, 09 July 2020)

How data security can be assured in the database?

Select the correct option

- By hiding data from all
- Through concurrent access of users
- By asking users not to share things

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Question # 25 of 30 (Start time: 10:31:22 PM, 09 July 2020)

The conceptual database design can be transformed into any_____.

Select the correct option

- (●) Data model
- ( ) Database design
- E-R model

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Question # 26 of 30 (Start time: 10:32:18 PM, 09 July 2020)

For third normal form we concentrate on relations with one _____key, and we eliminate transitive dependencies

Select the correct option

- (●) Candidate
- ( ) Composite
- ( ) Super key
- ( ) Primary key

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Question # 27 of 30 (Start time: 10:33:23 PM, 09 July 2020)

If A -> B and A -> C, then A -> BC
The Inference Rule applies is;

Select the correct option

- (●) Union
- ( ) Decomposition
- ( ) Augmentation

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Question # 28 of 30 (Start time: 10:34:12 PM, 09 July 2020)

Given the following relation it is not 3 NF because
Student (roll no, name, course no, course max. marks, year of study, address), where roll no is PK

Select the correct option

- (●) it is not in 2 NF
- ( ) it does not have composite key
- ( ) non-key attributes course no and course max. marks are functionally dependent

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Question # 29 of 30 (Start time: 10:35:41 PM, 09 July 2020)

Duplication of data in controlled redundancy is controlled and _____.

Select the correct option

- (●) Deliberate
- ( ) Necessary
- ( ) Precise

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Question # 1 of 30 (Start time: 10:44:34 PM, 09 July 2020)

A patient can be an outdoor or indoor. Analyze this statement and tell what type of constraint will be applied on patient?

Select the correct option

- ○ Total completeness
- ● Partial Completeness
- ○ Total Disjoint
- ○ Partial Disjoint

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Question # 3 of 30 (Start time: 10:46:53 PM, 09 July 2020)

An attribute that is the collection of some other attribute(s) is known as _____ attribute.

Select the correct option

- Multi-valued
- Single-valued
- No-valued
- Composite

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Question # 4 of 30 (Start time: 10:48:06 PM, 09 July 2020)

The entity relationship diagram is used to graphically represent the ____ database model.

Select the correct option

- condensed
- physical
- logical

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Question # 5 of 30 (Start time: 10:49:15 PM, 09 July 2020)

A relation is said to be in BCNF when

Select the correct option

- (●) it has overlapping composite keys
- ( ) it has no composite keys
- ( ) it has no multivalued dependencies

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Question # 6 of 30 (Start time: 10:50:35 PM, 09 July 2020)

How many types of cardinality is specified about relationship?

Select the correct option

- Two
- One
- Three

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CS403:Grand Quiz

Question # 7 of 30 (Start time: 10:50:49 PM, 09 July 2020)

Database Application is a program which is used for performing certain operations such as

Select the correct option

- Insertion of data
- Extraction of data
- Updating the data

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Question # 8 of 30 (Start time: 10:51:04 PM, 09 July 2020)

The basic purpose of Diamond in ER diagram is to show the _____.

Select the correct option

- Attributes
- Relationships
- Composite attribute

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Question # 9 of 30 (Start time: 10:51:16 PM, 09 July 2020)

Collection of raw facts is called____.

Select the correct option

- Information
- Object
- Output

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Question # 10 of 30 (Start time: 10:51:27 PM, 09 July 2020)

Given the following relation it is not 3 NF because
Student (roll no, name, course no, course max. marks, year of study, address), where roll no is PK

Select the correct option

- it is not in 2 NF
- it does not have composite key
- non-key attributes course no and course max. marks are functionally dependent

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Question # 11 of 30 (Start time: 10:52:48 PM, 09 July 2020)

There are _____basic properties of the database relations.

Select the correct option

- Four
- Three
- Six

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Question # 12 of 30 (Start time: 10:53:41 PM, 09 July 2020)

Major benefit of data sharing is:

Select the correct option

- Data of same applications placed at same place
- Data of same applications placed at different places
- Data of different application placed at same place

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Question # 13 of 30 (Start time: 10:54:28 PM, 09 July 2020)

Suppose a relation has five columns and ten rows, select the correct option to identify the degree of relation.

Select the correct option

- (●) Five
- ( ) Ten
- ( ) Fifteen

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Question # 14 of 30 (Start time: 10:55:23 PM, 09 July 2020)

Which of the following might be represented with a single-valued attribute?

Select the correct option

- person's phone number
- car's color
- employee's educational background

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Question # 15 of 30 (Start time: 10:56:52 PM, 09 July 2020)

Which of the following is INCORRECT about naming entities?

Select the correct option

- Singular nouns are used
- Write in capitals
- Organization specific names can be used
- Always use abbreviations as they are convenient

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Question # 16 of 30 (Start time: 10:58:07 PM, 09 July 2020)

Each _____ of a table contains atomic/single value.

Select the correct option

- (●) Cell
- ( ) Row
- ( ) Column

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Question # 17 of 30 (Start time: 10:58:18 PM, 09 July 2020)

Each component of DBMS performs _____ functions.

Select the correct option

- Similar
- Different
- Identical

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Question # 18 of 30 (Start time: 10:58:30 PM, 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

- ○ Binary operator
- ● Project operator
- ○ Join operation
- ○ Select Operator

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Question # 19 of 30 (Start time: 10:59:06 PM, 09 July 2020)

Which one of the following is not an advantage of DBMS.

Select the correct option

- Data consistency
- Recovery procedure is difficult
- Faster development of new applications

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Question # 20 of 30 (Start time: 11:00:12 PM, 09 July 2020)

While converting to 2NF all the columns are deleted from the original table except for the determinant which will serve as a _____key.

Select the correct option

- ○ Composite Key
- ○ Super key
- ● Foreign key
- ○ Primary key

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Question # 21 of 30 (Start time: 11:00:56 PM, 09 July 2020)

If A -> B and A -> C, then A -> BC
The Inference Rule applies is;

Select the correct option

- (●) Union
- ( ) Decomposition
- ( ) Augmentation

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Question # 22 of 30 (Start time: 11:01:07 PM, 09 July 2020)

The _____ determines that the link between two entities is optional or mandatory.

Select the correct option

- Maximum cardinality
- Minimum cardinality
- Maximum degree

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Question # 23 of 30 (Start time: 11:02:12 PM, 09 July 2020)

If an entity “motor cycle” is associated with at most one “driver”, then the relationship between these two entities is:

Select the correct option

- (●) One to one
- ( ) One to many
- ( ) Many to many
- ( ) Many to one

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Question # 25 of 30 (Start time: 11:04:40 PM, 09 July 2020)

We have two entities “Person” and “Doctor”. Which of the following is best suitable type of relationship between the mentioned entities?

Select the correct option

- (●) Inheritance
- ( ) Sub type
- ( ) Super type
- ( ) Unary

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Question # 27 of 30 (Start time: 11:06:25 PM, 09 July 2020)

The conceptual database design is drawn through_____.

Select the correct option

- Data model
- E-R model
- Database design

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Question # 28 of 30 (Start time: 11:06:53 PM, 09 July 2020)

In_____ appropriate data model is chosen.

Select the correct option

- ERD
- Conceptual Database Design
- Logical Database Design

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Question # 29 of 30 (Start time: 11:08:04 PM, 09 July 2020)

Normalization is a process of restructuring a relation to

Select the correct option

- (●) minimize duplication of data in a database
- ( ) maximize duplication of data to ensure reliability
- ( ) make it of uniform size

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Question # 30 of 30 (Start time: 11:08:44 PM, 09 July 2020)

Which of the following tool is used to graphically represent the components and design of the system?

Select the correct option

- CRM
- DFD
- CRF
- EDF

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Question # 30 of 30 (Start time: 10:36:38 PM, 09 July 2020)

A patient can be an outdoor or indoor. Analyze this statement and tell what type of constraint will be applied on patient?

Select the correct option

- ○ Total completeness
- ○ Partial Completeness
- ● Total Disjoint
- Partial Disjoint