|  |  |  |
| --- | --- | --- |
| **Question 1** |  | 1 / 1 point |

For our course we differentiate between ***data***and ***information***. Although some authors use the two terms interchangeably.

Question options:

|  |  |  |
| --- | --- | --- |
|  | True | |
|  | False | |
| **Question 2** |  | 1 / 1 point | |

In our course, the notation used in Entity Relationship Diagram is called

Question options:

|  |  |  |
| --- | --- | --- |
|  | Data Flow Diagram | |
|  | Flow Chart | |
|  | Crows Feet Notation | |
|  | UML | |
|  | Chen's Notation | |
| **Question 3** |  | 1 / 1 point | |

Identify the term that describes the following:

**A collection of software that creates, processes and administers databases.**

Question options:

|  |  |  |
| --- | --- | --- |
|  | modeling tool and diagramming tool | |
|  | DBMS | |
|  | operating system | |
|  | ERD software | |
| **Question 4** |  | 1 / 1 point | |

Identify the term that best defines the following description:

**Stored representation of objects and events that are relevant to the application**

Question options:

|  |  |  |
| --- | --- | --- |
|  | table | |
|  | relation | |
|  | database | |
|  | data | |
| **Question 5** |  | 1 / 1 point | |

In an Entity Relation Diagram (ERD) the **notation** at the end of the line represents

Question options:

|  |  |  |
| --- | --- | --- |
|  | entity | |
|  | cardinality | |
|  | degree | |
|  | relationship | |
| **Question 6** |  | 1 / 1 point | |

Identify the term that best describes the following definition:

**An organized collection of logically related data.**

Question options:

|  |  |  |
| --- | --- | --- |
|  | knowledge | |
|  | information | |
|  | metadata | |
|  | database | |
| **Question 7** |  | 1 / 1 point | |

Identify the term that represents the following definition:

**Data that describes properties and characteristics of data**

Question options:

|  |  |  |
| --- | --- | --- |
|  | database | |
|  | entity relationship diagram | |
|  | entity | |
|  | metadata | |
|  | information | |
| **Question 8** |  | 1 / 1 point | |

When data is processed it is called:

Question options:

|  |  |  |
| --- | --- | --- |
|  | knowledge | |
|  | database | |
|  | wisdom | |
|  | information | |
|  | entity | |
| **Question 9** |  | 1 / 1 point | |

Data can be defined as a set of qualitative and quantitative variables.

Which one of the two variables can be measured and can be assigned a numerical value?

Question options:

|  |  |  |
| --- | --- | --- |
|  | a quantitative variable | |
|  | a qualitative variable | |
| **Question 10** |  | 1 / 1 point | |

Identify the best term for the following definition:

**A data model that can be implemented in a database**, in particular a relational database.

Question options:

|  |  |  |
| --- | --- | --- |
|  | Entity Relationship Diagram | |
|  | Relation | |
|  | Entity | |
|  | Table | |
|  |  | |
| **Question 1** |  | 3 / 3 points | |

A NULL value can be used.

Chose three options.

Question options:

|  |  |
| --- | --- |
|  | when a value is not appropriate or not possible |
|  | when a value of a data element is not known |
|  | when a value is not entered in the database, it may be known |
|  | interchangeably with a zero |
|  | in place of a zero or space |
|  | interchangeably with a space |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 2** |  | 1 / 1 point |

Multiple aggregate values returned from an SQL query is called a

Question options:

|  |  |  |
| --- | --- | --- |
|  | either scalar or vector | |
|  | vector | |
|  | scalar | |
| **Question 3** |  | 1 / 1 point | |

The term *aggregate*

Question options:

|  |  |  |
| --- | --- | --- |
|  | is used when different data values are separated from each other | |
|  | is used when a single result is calculated from a collection of input values | |
| **Question 4** |  | 1 / 1 point | |

Chose three options for the following question.

A NULL value can be used when.

Question options:

|  |  |  |
| --- | --- | --- |
|  | when a value is not appropriate or when a value is not possible | |
|  | when a value of a data element is not known | |
|  | interchangeably with zero | |
|  | when a value is not entered in a database, even though a value is known | |
|  | interchangeably with either a space or a zero | |
|  | interchangeably with a space | |
| **Question 5** |  | 1 / 1 point | |

A *single* value returned from an SQL query is called

Question options:

|  |  |  |
| --- | --- | --- |
|  | scalar | |
|  | vector | |
|  | either scalar or vector | |
| **Question 6** |  | 1 / 1 point | |

The order of logical operators is

Question options:

|  |  |
| --- | --- |
|  | NOT, AND, OR |
|  | OR, AND, NOT |
|  | NOT, OR, AND |
|  | AND, NOT, OR |

|  |  |  |
| --- | --- | --- |
| **Question 1** |  | 1 / 1 point |

**An executive summary that tells the reader about the project and what the reader should expect from the document.**

Identify the term that best describes the above description.

Question options:

|  |  |  |
| --- | --- | --- |
|  | Business Rule | |
|  | Metadata | |
|  | Processing Logic | |
|  | Entity | |
|  | An abstract | |
| **Question 2** |  | 1 / 1 point | |

Which of the following is not a characteristic of a good business rule.

Question options:

|  |  |  |
| --- | --- | --- |
|  | Atomic | |
|  | Expressible | |
|  | Declarative | |
|  | Inconsistent | |
| **Question 3** |  | 1 / 1 point | |

Names of entities should always be

Question options:

|  |  |  |
| --- | --- | --- |
|  | plural | |
|  | singular | |
|  | singular for parent entity, plural for child entity | |
| **Question 4** |  | 2 / 2 points | |

Identify *two* items that Metadata should **not** have.

Question options:

|  |  |  |
| --- | --- | --- |
|  | source of data | |
|  | processing logic | |
|  | description of data | |
|  | sample data | |
|  | constraints | |
|  | data type | |
|  | name of attribute | |
| **Question 5** |  | 1 / 1 point | |

In an organization which one of the two changes ***less***frequently

Question options:

|  |  |  |
| --- | --- | --- |
|  | business rules | |
|  | data models | |
| **Question 1** |  | 2 / 2 points | |

Identify ***two***advantages of dynamic views

Question options:

|  |  |  |
| --- | --- | --- |
|  | It can simplify large queries into shorter forms of views. | |
|  | It can facilitate access control by allowing selected rows and/or columns in a view. | |
|  | It can override primary and foreign key constraints. | |
|  | It can replace a data administrator and database administrator. | |
|  | It can draw and ERD automatically without a diagramming tool. | |
| **Question 2** |  | 1 / 1 point | |

A database administrator decides to DROP a **dynamic** view.

The data in the original table will also be deleted because the tables will also be dropped.

Question options:

|  |  |  |
| --- | --- | --- |
|  | True | |
|  | False | |
| **Question 3** |  | 1 / 1 point | |

A database administrator decides to **DROP**a **Materialized** view.

The table from which the view is created will also be dropped.

Question options:

|  |  |  |
| --- | --- | --- |
|  | True | |
|  | False | |
| **Question 4** |  | 2.84 / 4 points | |

Identify the advantages and characteristics of a Materialized View.

Select 4 options.

Question options:

|  |  |  |
| --- | --- | --- |
|  | Materialized views occupy hard disk space. | |
|  | The result from a Materialized view will always show the most updated result set, i.e. each time the table is updated the new data is shown in the Materialized view. | |
|  | Materialized view need refreshing each time an updated result is required. | |
|  | Materialized views do not occupy hard disk space. | |
|  | Less recent data is obtained with the advantage of saving CPU time. | |
|  | Materialized views do not need refreshing. | |
|  | Queries that are CPU intensive can be run periodically instead of running them each time a report is needed. | |
| **Question 5** |  | 1 / 1 point | |

***virtual table***or ***logical view***

are other names for

Question options:

|  |  |  |
| --- | --- | --- |
|  | Index Table | |
|  | NATURAL JOIN | |
|  | Dynamic View | |
|  | Materialized View | |
| **Question 6** |  | 1 / 1 point | |

What will the following SQL statement do?

**CREATE VIEW** Asia\_V **AS**

**SELECT**\* **FROM**Country

**WHERE**CONTINENT = 'Asia';

Question options:

|  |  |  |
| --- | --- | --- |
|  | create a dynamic view | |
|  | create a materalized view | |
|  | create a table called **Asia\_V** | |
| **Question 7** |  | 2 / 2 points | |

Identify the two types of VIEWs

Question options:

|  |  |  |
| --- | --- | --- |
|  | DDL | |
|  | Dynamic | |
|  | DML | |
|  | JOIN | |
|  | Materialized | |
| **Question 8** |  | 1 / 1 point | |

Which one the following view will use disk space for ***data***.

Question options:

|  |  |  |
| --- | --- | --- |
|  | Dynamic View | |
|  | Materalized View | |
|  | Logical View | |
|  | Virtual Table | |
| **Question 1** |  | 1 / 1 point | |

An operation to join a table to itself is called a:

Question options:

|  |  |  |
| --- | --- | --- |
|  | EQUI JOIN | |
|  | NATURAL JOIN | |
|  | SELF JOIN | |
|  | INNER JOIN | |
|  | OUTER JOIN | |
| **Question 2** |  | 1 / 1 point | |

**SELECT Country.Code, Country.Name**

**FROM Country**

**WHERE Country.Code NOT IN( SELECT CountryCode FROM CountryLanguage );**

In the above query, the statement

**SELECT CountryCode FROM CountryLanguage**

is a:

Question options:

|  |  |  |
| --- | --- | --- |
|  | NATURAL JOIN | |
|  | Sub query | |
|  | UNION Statement | |
|  | INNER JOIN | |
| **Question 3** |  | 1 / 1 point | |

A JOIN operation combines two tables into one on the basis of common values in a common column.

Question options:

|  |  |  |
| --- | --- | --- |
|  | True | |
|  | False | |
| **Question 4** |  | 1 / 1 point | |

A join operation:

Question options:

|  |  |  |
| --- | --- | --- |
|  | causes two tables with a common attribute to be combined into a single table or view | |
|  | combines two tables with a common attribute into a single table or view, the common attribute must be a prime key in both tables | |
|  | is used to combine indexing operations | |
|  | combines data from two different fields | |
| **Question 5** |  | 1 / 1 point | |

Refer to the world database.

Identify the query that will list countries that have no cities listed in the city table

Question options:

|  |  |  |
| --- | --- | --- |
|  | SELECT Country.Code, Country.Name  FROM Country  LEFT JOIN City  ON Country.Code = City.CountryCode  WHERE City.CountryCode IS NULL; | |
|  | SELECT Country.Code, Country.Name  FROM Country  LEFT JOIN City  ON Country.Code = City.CityID  WHERE City.CountryCode IS NULL; | |
|  | SELECT Country.Code, Country.Name  FROM Country  LEFT JOIN City  ON Country.Name = City.CityID  WHERE City.CountryCode IS NULL; | |
|  | SELECT Country.Code, Country.Name  FROM Country  LEFT JOIN City  ON Country.Code = City.CountryCode  WHERE City.CountryCode IS NOT NULL; | |
| **Question 6** |  | 1 / 1 point | |

Which of the following queries will list Country Code, Country Name and City Name for each city in the city table.

Question options:

|  |  |  |
| --- | --- | --- |
|  | SELECT Country.Code, Country.Name, City.Name  FROM Country  INNER JOIN City  ON Country.Code = City.CountryCode; | |
|  | SELECT Country.Code, Country.Name, City.Name  FROM Country; | |
|  | SELECT Country.Code, Country.Name, City.Name  FROM Country  SELF JOIN Country  ON Country.Code = City.CountryCode; | |
|  | SELECT \*  FROM Country  INNER JOIN City  ON Country.Name = City.Name; | |
| **Question 7** |  | 1 / 1 point | |

An INNER JOIN operation is performed on two tables. The common field that is used for the join operation has a few NULL values in each of the two tables.

The join operation will:

Question options:

|  |  |  |
| --- | --- | --- |
|  | not match NULL records from any of the two tables | |
|  | match NULL values from the second table but not from the first table | |
|  | match NULL values from the first table but not from the second table | |
|  | match NULL values from both tables, since it is a JOIN operation | |
| **Question 8** |  | 1 / 1 point | |

Which query will combine each row from the first table with each row from the second table?

Question options:

|  |  |  |
| --- | --- | --- |
|  | SELF JOIN | |
|  | CROSS JOIN or CARTESIAN PRODUCT | |
|  | INNER JOIN | |
|  | OUTER JOIN | |
| **Question 9** |  | 1 / 1 point | |

Which query will list countries that do not have a language listed in the CountryLanguage Table

Question options:

|  |  |  |
| --- | --- | --- |
|  | SELECT Country.Code, Country.Name, Language  FROM CountryLanguage  RIGHT JOIN Country ON Country.Name = CountryLanguage.CountryLanguage  WHERE CountryLanguage.CountryCode IS NULL; | |
|  | SELECT ALL  FROM CountryLanguage  WHERE CountryLanguage.CountryCode IS NOT IN Country; | |
|  | SELECT Country.Code, Country.Name, Language  FROM CountryLanguage  RIGHT JOIN Country ON Country.Code = CountryLanguage.CountryCode  WHERE CountryLanguage.CountryCode IS NULL; | |
| **Question 10** |  | 1 / 1 point | |

Identify the SQL operator that satisfies the following conditions:

1. Combines the result sets of two or more SELECT statements

2. Each SELECT statement must have the same number of columns

3. All columns must have the same data type

4. All columns must be in the same order

5. The result set will display DISTINCT values by default, the ALL keyword is used to display duplicate values.

Question options:

|  |  |
| --- | --- |
|  | FULL OUTER JOIN |
|  | SELF JOIN |
|  | NATURAL JOIN |
|  | UNION |
|  | CROSS JOIN |
|  | |
| **Question 1** |  | 1 / 1 point |

A join operation is performed on two tables. The common field that is used for the join operation has a few NULL values in each of the two tables.

The join operation will:

Question options:

|  |  |  |
| --- | --- | --- |
|  | not match NULL records from any of the two tables | |
|  | match NULL values from both tables | |
|  | match NULL values from the second table but not from the first table | |
|  | match NULL values from the first table but not from the second table | |
| **Question 2** |  | 1 / 1 point | |

An operation to join a table to itself is called a:

Question options:

|  |  |  |
| --- | --- | --- |
|  | SELF JOIN | |
|  | OUTER JOIN | |
|  | CROSS JOIN | |
|  | NATURAL JOIN | |
| **Question 3** |  | 2 / 2 points | |

Which of the following operations are *not***JOIN**operations.

Chose ***two***options

Question options:

|  |  |  |
| --- | --- | --- |
|  | SELF JOIN | |
|  | CROSS JOIN (also called Cartesian Product) | |
|  | LEFT JOIN and RIGHT JOIN | |
|  | INNER JOIN | |
|  | UNION | |
|  | OUTER JOIN | |
| **Question 4** |  | 1 / 1 point | |

Which operation matches this description:

1. Returns a result set that includes data from all tables.  
2. All tables, or views, must have the same attributes.

Question options:

|  |  |  |
| --- | --- | --- |
|  | CROSS JOIN | |
|  | OUTER JOIN | |
|  | SELF JOIN | |
|  | NATURAL JOIN | |
|  | UNION | |
| **Question 5** |  | 1 / 1 point | |

Study the following SQL statement. It uses two tables from the world database.

What operation is performed by the statement?

**SELECT**CountryCode, Country.Name, City.Name

**FROM**City, Country;

Question options:

|  |  |  |
| --- | --- | --- |
|  | NATURAL JOIN | |
|  | LEFT OUTER JOIN | |
|  | CARTESIAN PRODUCT (also called CROSS JOIN) | |
|  | SELF JOIN | |
| **Question 6** |  | 1 / 1 point | |

A join in which rows that do not have matching values in common columns are still included in the result table.

Question options:

|  |  |  |
| --- | --- | --- |
|  | CROSS JOIN | |
|  | OUTER JOIN | |
|  | SELF JOIN | |
|  | NATURAL JOIN | |
| **Question 1** |  | 1 / 1 point | |

**DELETE FROM** Customer\_T **WHERE** Cust\_ID = '**C002**';

Study the above statement and chose one answer from the choices. The statement relates to the Inventory Lab you have done.

Question options:

|  |  |  |
| --- | --- | --- |
|  | The statement will delete all customers with Cust\_ID = C002  regardless of any referential integrity constraint. | |
|  | The statement will delete the customer with Cust\_ID = C002 if there are no constraints for that customer in the child table. | |
|  | The statement will remove all customers from the database  with Cust\_ID = C002 | |
| **Question 2** |  | 1 / 1 point | |

A SQL DELETE statement will remove row(s) from a table, it cannot remove the table from the database

Question options:

|  |  |  |
| --- | --- | --- |
|  | True | |
|  | False | |
| **Question 3** |  | 1 / 1 point | |

A DELETE statement and a DROP statement can be used interchangeably with the same result

Question options:

|  |  |  |
| --- | --- | --- |
|  | True | |
|  | False | |
| **Question 4** |  | 1 / 1 point | |

**DELETE FROM** Product\_T;

Study the above SQL DELETE statement and chose one option from the list below

Question options:

|  |  |
| --- | --- |
|  | The statement will remove the table Product\_T |
|  | The statement will give an error because the list of attributes is missing. |
|  | The statement will remove the column Product\_T from the table |
|  | The statement will remove all rows from the Product\_T table, if there are no referential integrity constraints in the child table. |

|  |  |  |
| --- | --- | --- |
| **Question 1** |  | 1 / 1 point |

Identify the query where the inner query does not depend on data from the outer query.

Question options:

|  |  |  |
| --- | --- | --- |
|  | correlated | |
|  | non correlated | |
| **Question 2** |  | 1 / 1 point | |

Identify the query where the inner query depends on the outer query for data

Question options:

|  |  |  |
| --- | --- | --- |
|  | OUTER JOIN | |
|  | non correlated query | |
|  | INNER JOIN | |
|  | correlated query | |
| **Question 3** |  | 1 / 1 point | |

Identify the type of query where the inner query is executed only once for the outer query

Question options:

|  |  |  |
| --- | --- | --- |
|  | OUTER JOIN | |
|  | INNER JOIN | |
|  | correlated | |
|  | non correlated | |
| **Question 4** |  | 1 / 1 point | |

Study the query and chose two correct answers.

It refers to the **world**database

**SELECT** City\_T.Name, District, City\_T.Population

**FROM**City **AS**City\_T

**WHERE**CountryCode = 'CAN' **AND**

   ( Population > ( **SELECT**AVG( Population ) **FROM**City **WHERE**City.District = City\_T.District ) )

**ORDER BY**District;

Question options:

|  |  |  |
| --- | --- | --- |
|  | The query is invalid and will give an error. | |
|  | The above query is an example of a correlated sub query. | |
|  | The query will list the average of all cities that have population greater than the population of all cities in each District in CountryCode CAN | |
|  | The query will list the average of all cities that have population greater than the population of all cities in CountryCode CAN | |
|  | The above query is an example of a non-correlated sub query. | |
| **Question 5** |  | 1 / 1 point | |

In an **non correlated** sub query, which query runs first

Question options:

|  |  |  |
| --- | --- | --- |
|  | inner query | |
|  | both will run at the same time | |
|  | outer query | |
| **Question 6** |  | 1 / 1 point | |

Study the query and choose one correct answer.

**SELECT**ProcedureCode, cost  
**FROM**VisitProcedure\_T  
**WHERE** cost > ( **SELECT** AVG( cost ) **FROM**VisitProcedure\_T );

Question options:

|  |  |
| --- | --- |
|  | The query will first determine the average cost of a procedure, then list all costs that are less than the average cost of all procedures |
|  | The query will list the average costs of all procedures. |
|  | The query will first determine the average cost of a procedure, then list all costs that are greater than the average cost of all procedures |
|  | The query will first list all procedures, then it will continue to list all the procedures that are equal to the average cost. |

|  |  |  |
| --- | --- | --- |
| **Question 1** |  | 1 / 1 point |

The database is processing a set of 10 SQL statements. The first 4 statements run without error. The fifth statement has a problem with referential integrity. What is the best course of action.

Question options:

|  |  |  |
| --- | --- | --- |
|  | Complete all the other statements now. Then run the single statement that is giving errors; the problem should go away. | |
|  | Restart the RDBMS, the problem should go away. | |
|  | Let the first four statements run, i.e. COMMIT them. Flag an error, let the user resolve the problem and then attempt to complete the transactions again. | |
|  | ROLLBACK the entire set of transactions. The first 4 statements are undone. The database is in a state as if no statements were run. | |
| **Question 2** |  | 1 / 1 point | |

Identify the statement that make changes to a database **permanent**.

Question options:

|  |  |  |
| --- | --- | --- |
|  | ROLLBACK | |
|  | COMMIT | |
|  | DROP | |
|  | CREATE | |
| **Question 3** |  | 1 / 1 point | |

A unit of work that changes the state of a database

Question options:

|  |  |  |
| --- | --- | --- |
|  | query | |
|  | stored procedure | |
|  | transaction | |
|  | trigger | |
| **Question 4** |  | 1 / 1 point | |

Identify the statement that **undoes**(reverses) a transaction

Question options:

|  |  |  |
| --- | --- | --- |
|  | CREATE | |
|  | ROLLBACK | |
|  | DROP | |
|  | COMMIT | |
| **Question 5** |  | 1 / 1 point | |

Transaction Management is needed when

Question options:

|  |  |  |
| --- | --- | --- |
|  | multiple SQL commands needs to be run as a single statement | |
|  | a user reports to more than one manager | |
|  | there is more than one database user in the system | |
|  | a transaction consists of a single statement | |
| **Question 6** |  | 1 / 1 point | |

Identify the term used to describe the database state described below.

**Either all statements in a transaction execute or   
none of the statements in the transaction execute.**

Question options:

|  |  |  |
| --- | --- | --- |
|  | atomicity | |
|  | modularity | |
|  | granularity | |
|  | protocol | |
|  | algorithm | |
| **Question 7** |  | 1 / 1 point | |

The **SELECT**statement is a transaction.

True=Yes

False=No

Question options:

|  |  |
| --- | --- |
|  | True |
|  | False |

|  |  |  |
| --- | --- | --- |
| **Question 1** |  | 1 / 1 point |

A table needs some rows to be updated. The user is forced to update other rows after the update is done. Identify the term that describes this scenario.

Question options:

|  |  |  |
| --- | --- | --- |
|  | normalization | |
|  | deletion anomaly | |
|  | forward engineering | |
|  | insertion anomaly | |
|  | update anomaly | |
| **Question 2** |  | 1 / 1 point | |

Identify the term used for a key that is unique in an organization's database, and its value is unique across all relations:

Question options:

|  |  |
| --- | --- |
|  | enterprise key |
|  | primary key |
|  | surrogate key |
|  | foreign key |
|  | composite key |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 3** |  | 1 / 1 point |

A non-prime key is dependent on part of the prime key. This is called:

Question options:

|  |  |
| --- | --- |
|  | composite key |
|  | partial functional dependency |
|  | a repeating group |
|  | full functional dependency |
|  | transitive dependency |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 4** |  | 1 / 1 point |

Some data needs to be deleted from a table. Other relevant data is lost in the delete operation.

Identify the term that describes this scenario.

Question options:

|  |  |  |
| --- | --- | --- |
|  | insertion anomaly | |
|  | normalization | |
|  | foreign key constraint | |
|  | deletion anomaly | |
|  | update anomaly | |
| **Question 5** |  | 3 / 3 points | |

Choose three options. The objective of Normalization is to

Question options:

|  |  |
| --- | --- |
|  | simplify the enforcement of referential integrity constraints |
|  | ensure data storage efficiency on magnetic media |
|  | derive relations that are free of anomalies |
|  | simplify printing reports |
|  | simplify queries and display data |
|  | ensure data is easily maintained |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 6** |  | 1 / 1 point |

Data needs to be added to a table. Two situations arise

1. The user is forced to add data to other fields that are in the table.

2. Data is not available for all fields, the user is forced to add NULL values to other fields .

Identify the term that describes this scenario.

Question options:

|  |  |  |
| --- | --- | --- |
|  | insertion anomaly | |
|  | deletion anomaly | |
|  | update anomaly | |
|  | constraint | |
|  | normalization | |
| **Question 7** |  | 1 / 1 point | |

Rows of a relation must not be interchanged and must be stored in a certain sequence.

Question options:

|  |  |
| --- | --- |
|  | True |
|  | False |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 8** |  | 1 / 1 point |

A table has a composite key and repeating data items have been resolved.

Identify the correct choice based on the above statement.

Question options:

|  |  |  |
| --- | --- | --- |
|  | The table can never be in second normal form, it will always have partial functional dependency because it has a composite key | |
|  | The table can never be in second normal form unless the composite key is resolved into a primary key that have only one attribute. | |
|  | Because it has the key defined it will be in second normal form. | |
|  | The table may be in first, second or third normal form based on rules. | |
| **Question 9** |  | 2 / 2 points | |

Choose two options. A database is in Third Normal Form if

Question options:

|  |  |
| --- | --- |
|  | every non-key attribute is fully functionally dependent on the primary key |
|  | repeating groups have been resolved |
|  | primary key has been defined |
|  | it has no transitive dependencies |
|  | it is in second normal form |
|  | every non-key attribute is fully functionally dependent on other non-key attributes |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 10** |  | 1 / 1 point |

A primary key

Question options:

|  |  |
| --- | --- |
|  | cannot be NULL |
|  | can be NULL |
|  | can be NULL if the database is in Second Normal Form |
|  | can be NULL if the database is in First Normal Form |
|  | can be NULL if the database is in Third Normal Form |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 11** |  | 1 / 1 point |

Identify the rule that maintains consistency among the rows of two relations

Question options:

|  |  |
| --- | --- |
|  | Integrity rule |
|  | Entity Integrity Rule |
|  | NULL values |
|  | Referential Integrity Rule |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 12** |  | 1 / 1 point |

Order of columns in a relation is

Question options:

|  |  |
| --- | --- |
|  | important, the prime key must be displayed and inserted last |
|  | important, prime key must be displayed first, all other columns must be in alphabetical order |
|  | not relevant, columns can be in any order |
|  | important, the prime key must be displayed and inserted first |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 13** |  | 1 / 1 point |

A composite key is

Question options:

|  |  |
| --- | --- |
|  | an attribute that has different names but the same meaning |
|  | an alternative name used for an attribute |
|  | an attribute that stores more than one data item |
|  | a primary key that consists of more than one attribute |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 14** |  | 1 / 1 point |

Relations that have anomalies are decomposed, to smaller, well-structured relations. This process is called:

Question options:

|  |  |
| --- | --- |
|  | Drawing Logical ER diagrams |
|  | Reverse Engineering |
|  | Denormalization |
|  | Mapping entities to relations |
|  | Normalization |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 15** |  | 2 / 2 points |

Choose two options. A database is in First Normal Form if

Question options:

|  |  |
| --- | --- |
|  | repeating groups have been resolved |
|  | every non-key attribute is fully functionally dependent on other non-key attributes |
|  | every non-key attribute is fully functionally dependent on the primary key |
|  | every non-key attribute is fully functionally dependent on the primary key |
|  | primary key has been defined |
|  | a table has no transitive dependencies |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 16** |  | 1 / 1 point |

Rows in a relation

Question options:

|  |  |
| --- | --- |
|  | Must be inserted in chronological order |
|  | Must be inserted in alphabetical order |
|  | Must be inserted in reverse alphabetical |
|  | Must be inserted in a way to ensure efficient retreival |
|  | Can be inserted in any order |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 17** |  | 3 / 3 points |

Choose three options. The entity integrity rule states that:

Question options:

|  |  |
| --- | --- |
|  | a primary key must have more than one attribute |
|  | a primary key must have only one attribute |
|  | each entity must have a primary key |
|  | primary key can be null |
|  | a primary key cannot have a NULL value |
|  | each primary key must be unique |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 18** |  | 2 / 2 points |

Choose two options. A database is in Second Normal Form if

Question options:

|  |  |
| --- | --- |
|  | repeating groups have been resolved |
|  | every non-key attribute is fully functionally dependent on the primary key |
|  | primary key has been defined |
|  | it has no transitive dependencies |
|  | in first normal form |
|  | every non-key attribute is fully functionally dependent on other non-key attributes |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 19** |  | 1 / 1 point |

For a table to qualify as a relation: Every row must be unique, i.e. two rows cannot have the same values in all their fields

Question options:

|  |  |
| --- | --- |
|  | True |
|  | False |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 20** |  | 1 / 1 point |

A non-key is dependent on another non-key. This is called

Question options:

|  |  |
| --- | --- |
|  | partial functional dependency |
|  | full functional dependency |
|  | transitive dependency |

|  |  |  |
| --- | --- | --- |
| **Question 1** |  | 1 / 1 point |

An association between one, two or three entities is called

Question options:

|  |  |  |
| --- | --- | --- |
|  | relationship | |
|  | entity | |
|  | relation | |
|  | table | |
| **Question 2** |  | 1 / 1 point | |

Often DDL statements are written manually by a database designer. He uses a modeling tool to draw an ERD from this set of DDL statements, this process is called

Question options:

|  |  |  |
| --- | --- | --- |
|  | Reverse Engineering | |
|  | Forward Engineering | |
| **Question 3** |  | 1 / 1 point | |

The **traditional** method used to plan, analyse, design, implement and maintain an information is called

Question options:

|  |  |  |
| --- | --- | --- |
|  | Prototyping | |
|  | Systems Development Life Cycle (SDLC) | |
|  | Agile | |
|  | Rapid Application Development (RAD) | |
| **Question 4** |  | 1 / 1 point | |

An entity that is used to resolve a **m:m** relation is called an associative entity

Question options:

|  |  |  |
| --- | --- | --- |
|  | True | |
|  | False | |
| **Question 5** |  | 1 / 1 point | |

A database engineer using a modeling tool to create an ERD and then uses the tool to create DDL statements. This process is called

Question options:

|  |  |  |
| --- | --- | --- |
|  | Forward Engineering | |
|  | Reverse Engineering | |
| **Question 1** |  | 1 / 1 point | |

Identify the best data type to store an Algonquin's Student Number. The number should be exactly 9 digits in length. The length is unlikely to change for at least 15 years. There are no arithmetic calculations to be performed on the Student Number. All 9 elements of the student number are numerical.

Question options:

|  |  |  |
| --- | --- | --- |
|  | TEXT | |
|  | CLOB | |
|  | VARCHAR | |
|  | INTEGER | |
|  | CHAR | |
| **Question 2** |  | 1 / 1 point | |

Consider the two definitions for fixed character length and variable character length.

**PostCode CHAR( 6 ),**

**City     VARCHAR( 20 )**

Select one correct option that is valid.

Question options:

|  |  |  |
| --- | --- | --- |
|  | The maximum length can exceed 9 characters for CHAR but cannot exceed exceed 20 characters for VARCHAR. | |
|  | PostCode will take 6 bytes on the storage medium, even if no data is storedthough The maximum length cannot exceed 9 characters for CHAR and also cannot exceed 20 characters for VARCHAR. | |
|  | The maximum length can exceed 9 characters for CHAR and also can also exceed 20 characters for VARCHAR. | |
|  | The maximum length cannot exceed 9 characters for CHAR but can exceed exceed 20 characters for VARCHAR. | |
| **Question 3** |  | 1 / 1 point | |

Identify the data type that accepts character data; only the required number of bytes are used in the storage medium.

Question options:

|  |  |
| --- | --- |
|  | BLOB |
|  | NUMBER |
|  | CLOB |
|  | CHAR |
|  | VARCHAR |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 4** |  | 1 / 1 point |

Identify the best data type to store a Student's Date of Birth.

Question options:

|  |  |  |
| --- | --- | --- |
|  | VARCHAR | |
|  | CHAR | |
|  | TIMESTAMP | |
|  | INTEGER | |
|  | DATE | |
| **Question 5** |  | 1 / 1 point | |

Consider the two definitions for fixed character length and variable character length.

**CHAR( 9 )**

**VARCHAR( 20 )**

Select one correct option that is valid.

Question options:

|  |  |  |
| --- | --- | --- |
|  | The maximum length can exceed 9 characters for CHAR and also can also exceed 20 characters for VARCHAR. | |
|  | The maximum length can exceed 9 characters for CHAR but cannot exceed exceed 20 characters for VARCHAR. | |
|  | The maximum length cannot exceed 9 characters for CHAR but can exceed exceed 20 characters for VARCHAR. | |
|  | The maximum length cannot exceed 9 characters for CHAR and also cannot exceed 20 characters for VARCHAR. | |
| **Question 6** |  | 1 / 1 point | |

Identify the data type that accepts fixed length character data of upto 2000 characters.

Question options:

|  |  |
| --- | --- |
|  | CLOB |
|  | VARCHAR |
|  | CHAR |
|  | BLOB |
|  | NUMBER |
| [View Feedback](javascript://) | |

|  |  |  |
| --- | --- | --- |
| **Question 7** |  | 1 / 2 points |

Consider the two definitions for fixed character length and variable character length.

**PostCode CHAR( 6 ),**

**City     VARCHAR( 20 )**

Select two correct options that are valid.

Question options:

|  |  |  |
| --- | --- | --- |
|  | The field **City**will take 20 characters on the storage medium, even if there is no data entered by the user for that row. | |
|  | The field **City**will take as many characters on the storage medium,  as entered by the user entered by the user for that row. | |
|  | The field **City**can exceed 20 characters but the field **PostCode**cannot exceed 6 character. | |
|  | The field **PostCode**will take 6 characters on the storage medium, even if there is no data entered by the user for that row. | |
| **Question 8** |  | 1 / 1 point | |

Identify the best data type to store Canada's postal code of 6 characters in length. The length is unlikely to change for at least 10 years. There are no arithmetic calculations to be performed on the postal code. A code to be valid must be exactly 6 characters in length.

Question options:

|  |  |  |
| --- | --- | --- |
|  | VARCHAR | |
|  | TEXT | |
|  | INTEGER | |
|  | CHAR | |
|  | CLOB | |
| **Question 9** |  | 1 / 1 point | |

In one of the the tables in the database at Ottawa Civic Hospital, X-Ray, MRI scans and other digital images are stored. Identify the datatype for storage of these images.

Question options:

|  |  |  |
| --- | --- | --- |
|  | CLOB | |
|  | NUMBER | |
|  | BLOB | |
|  | VARCHAR | |
|  | CHAR | |
| **Question 1** |  | 1 / 1 point | |

An attribute whose values can be calculated from values of other attributes.

Question options:

|  |  |  |
| --- | --- | --- |
|  | Derived Attribute | |
|  | Composite Key | |
|  | Foreign Key | |
|  | Composite Attribute | |
| **Question 2** |  | 1 / 1 point | |

Identify two items that Metadata should not have.

Question options:

|  |  |  |
| --- | --- | --- |
|  | sample data | |
|  | processing logic | |
|  | data types | |
|  | source of data | |
|  | description of data | |
|  | name of the attribute | |
| **Question 3** |  | 1 / 1 point | |

A composite attribute is the same as a composite key

Question options:

|  |  |  |
| --- | --- | --- |
|  | True | |
|  | False | |
| **Question 4** |  | 1 / 1 point | |

A rule that specifies the ***number of instances*** on one or more entities.

Question options:

|  |  |  |
| --- | --- | --- |
|  | degree | |
|  | relationship | |
|  | range | |
|  | constraint | |
|  | cardinality | |
| **Question 5** |  | 1 / 1 point | |

A time value that is associated with a data value, indicating when the data value was updated

Question options:

|  |  |  |
| --- | --- | --- |
|  | Foreign Key | |
|  | Required Attribute | |
|  | Composite Attribute | |
|  | Time Stamp | |
| **Question 6** |  | 1 / 1 point | |

An attribute that is calculated from other attributes and not physically stored in a database is called

Question options:

|  |  |  |
| --- | --- | --- |
|  | range | |
|  | default value | |
|  | time stamp | |
|  | derived attribute | |
| **Question 7** |  | 1 / 1 point | |

Which of the following is not a characteristic of a good business rule.

Question options:

|  |  |  |
| --- | --- | --- |
|  | Declarative | |
|  | Expressible | |
|  | Inconsistent | |
|  | Atomic | |
| **Question 8** |  | 1 / 1 point | |

In an organization which one of the two changes ***less***frequently

Question options:

|  |  |  |
| --- | --- | --- |
|  | data models | |
|  | business rules | |
| **Question 9** |  | 1 / 1 point | |

Identify the entity whose existence depends on another entity

Question options:

|  |  |  |
| --- | --- | --- |
|  | strong entity | |
|  | associative entity | |
|  | weak entity | |
| **Question 10** |  | 1 / 1 point | |

Names of entities should always be

Question options:

|  |  |  |
| --- | --- | --- |
|  | plural | |
|  | singular | |
|  | singular for parent entity, plural for child entity | |
| **Question 11** |  | 1 / 1 point | |

The number of entities that participate in a relationship is called

Question options:

|  |  |  |
| --- | --- | --- |
|  | degree | |
|  | attribute | |
|  | cardinality | |
|  | constraint | |
| **Question 12** |  | 1 / 1 point | |

A data administrator decides to store the street number, street name, city, province and postal code, all in a single address field, what is such an attribute called:

Question options:

|  |  |  |
| --- | --- | --- |
|  | default value | |
|  | composite attribute | |
|  | calculated field | |
|  | range | |
|  | derived attribute | |
| **Question 13** |  | 1 / 1 point | |

An attribute that cannot be broken into smaller components is called

Question options:

|  |  |  |
| --- | --- | --- |
|  | Atomic Attribute | |
|  | Composite Attribute | |
|  | Required Attribute | |
|  | Multivalued Attribute | |
| **Question 14** |  | 1 / 1 point | |

An entity should ***not***be

Select **two** options

Question options:

|  |  |  |
| --- | --- | --- |
|  | a ***user***of the system | |
|  | a place | |
|  | an event | |
|  | a report | |
|  | a concept | |
| **Question 15** |  | 1 / 1 point | |

A drug has contraindications with another drug, i.e. a drug cannot be taken with another drug. What type of a degree is best suited to represent such a relation.

Question options:

|  |  |
| --- | --- |
|  | binary |
|  | ternary |
|  | unary |

|  |  |  |
| --- | --- | --- |
| **Question 1** |  | 1 / 1 point |

Refer Table Animal, Diet & Weight.

Identify the prime key in the table

Question options:

|  |  |  |
| --- | --- | --- |
|  | Weight | |
|  | Animal, Diet, Weight | |
|  | Animal, Diet | |
|  | There is no prime key possible in this table | |
|  | Diet | |
|  | Animal | |
|  | Diet, Weight | |
|  | Animal, Weight | |
| **Question 2** |  | 1 / 1 point | |

A Composite Key is

Question options:

|  |  |  |
| --- | --- | --- |
|  | an attribute that stores more than one data item | |
|  | a primary key that consists more than one attribute | |
|  | an attribute that stores more than one data item | |
|  | an alternate name used for an attribute | |
| **Question 3** |  | 1 / 1 point | |

Refer Table : Day, Patient & Mood.

Is the primary key composite?

Question options:

|  |  |  |
| --- | --- | --- |
|  | True | |
|  | False | |
| **Question 4** |  | 2 / 2 points | |

Refer table : Pet & Food.

Identify two conclusions that can be determined from the data set.

Question options:

|  |  |  |
| --- | --- | --- |
|  | Pet & Food is a relation but not a table. | |
|  | Pet & Food is a table but not a relation. | |
|  | The Prime key is  **Pet, Food**,  it is a composite key | |
|  | A prime key cannot be determined from the given data set. | |
|  | The data set is neither a table nor a relation. | |
| **Question 5** |  | 1 / 1 point | |

With reference to Table: Numbers.

Is the prime key composite?

Question options:

|  |  |  |
| --- | --- | --- |
|  | True | |
|  | False | |
| **Question 6** |  | 1 / 1 point | |

With reference to table Numbers, identify the prime key.

Question options:

|  |  |  |
| --- | --- | --- |
|  | B | |
|  | A | |
|  | A,C | |
|  | C,D | |
|  | D | |
|  | A,B | |
|  | C | |
| **Question 7** |  | 1 / 1 point | |

Refer Table : Ingredients and Measurements.

Identify the prime key in the table

Question options:

|  |  |  |
| --- | --- | --- |
|  | A, B | |
|  | A, B, Cups | |
|  | B, Cups | |
|  | A | |
|  | A, Cups | |
|  | Cups | |
|  | B | |
| **Question 8** |  | 1 / 1 point | |

Refer Table Day, Patient & Mood.

Identify the prime key in the table.

Question options:

|  |  |  |
| --- | --- | --- |
|  | Day | |
|  | Day, Mood | |
|  | It is not possible to identify a prime key in this table | |
|  | Day, Patient | |
|  | Mood | |
|  | Patient, Mood | |
|  | Day, Patient, Mood | |
|  | Patient | |
| **Question 9** |  | 1 / 1 point | |

Refer Ingredients and Measurements.

Is the prime key composite

Question options:

|  |  |  |
| --- | --- | --- |
|  | True | |
|  | False | |
| **Question 10** |  | 1 / 1 point | |

A primary key is

Question options:

|  |  |  |
| --- | --- | --- |
|  | ***minimum***number of attributes required to uniquely identify a row in a relation | |
|  | at least two attributes that are required to identify at a row in a relation | |
|  | the number of attributes required to identify at least two rows in a relation | |
|  | ***maximum***number of attributes required to uniquely identify a row in a relation | |
| **Question 11** |  | 1 / 1 point | |

A **key** is defined as:

a combination of one or more attributes that uniquely identifies rows in a relation

Question options:

|  |  |
| --- | --- |
|  | True |
|  | False |