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Time taken	1 hour 52 mins
Marks	38.00/46.00
Grade	**33.04** out of 40.00 (**83**%)

Question **1**

Correct

Mark 1.00 out of 1.00

An artificial column added to a relation to serve as the primary key is a _____.

Select one:

- a. candidate key
- b. surrogate key ✓
- c. foreign key
- d. composite key

Question **2**

Correct

Mark 1.00 out of 1.00

In relational terms as defined by E.F. Codd, a column is called an *attribute*.

Select one:

- True ✓
- False

Question **3**

Correct

Mark 1.00 out of 1.00

Saying that two entities are functionally dependent means that _____.

Select one:

- a. for both of the entities, if we are given the value of one entity, we can determine the value of the other entity
- b. the functional dependency will have to be removed through normalization
- c. the entities are always connected by a mathematical equation
- d. for one of the entities, if we are given the value of that entity, we can determine the value of one other entity ✓

Question **4**

Incorrect

Mark 0.00 out of 1.00

If a relation is in BCNF, and each multivalued dependency has been moved to a relation of its own, then the first relation is in _____.

Select one:

- a. Third Normal Form ✗
- b. Domain/key normal form
- c. Boyce-Codd Normal Form
- d. Fourth Normal Form

Question **5**

Correct

Mark 1.00 out of 1.00

Which of the following is **not** true about a *relation?*

Select one:

- a. Has rows containing data about an entity
- b. Has cells that hold only a single value
- c. Has columns containing data about attributes of the entity
- d. Can have two identical rows ✓

Question **6**

Correct

Mark 1.00 out of 1.00

Given the functional dependency A → (B, C), then it is true that A → B and A → C.

Select one:

- True ✓
- False

Question **7**

Correct

Mark 1.00 out of 1.00

A key consisting of one or more columns that is a primary key in another relation is a _____.

Select one:

- a. composite key
- b. foreign key ✓
- c. surrogate key
- d. candidate key

Question **8**

Correct

Mark 1.00 out of 1.00

Candidate keys are called interlocking candidate keys when they share one or more attributes.

Select one:

- True
- False ✓

Question **9**

Correct

Mark 1.00 out of 1.00

A key can be composed of a group of attributes taken together.

Select one:

- True ✓
- False

Question **10**

Correct

Mark 1.00 out of 1.00

A combination key is a group of attributes that uniquely identifies a row.

Select one:

- True
- False ✓

Question **11**

Correct

Mark 1.00 out of 1.00

A table that meets the definition of a relation is in _____.

Select one:

- a. Second Normal Form
- b. Boyce-Codd Normal Form
- c. Third Normal Form
- d. First Normal Form ✓

Question **12**

Correct

Mark 1.00 out of 1.00

A relation is in domain/key normal form if _____.

Select one:

- a. every key of the relation is a logical consequence of the definition of constraints and domains
- b. every key of the relation is a logical consequence of the definition of constraints and determinants
- c. every constraint on the relation is a logical consequence of the definition of keys and domains ✓
- d. every constraint on the relation is a logical consequence of the definition of keys and determinants

Question **13**

Correct

Mark 1.00 out of 1.00

A relation is in third normal form (3NF) if and only if it is in 2NF and _____.

Select one:

- a. every candidate key is a determinant
- b. all non-key attributes are determined by the entire primary key
- c. every attribute is a candidate key
- d. there are no non-key attributes determined by another non-key attribute ✓

Question **14**

Incorrect

Mark 0.00 out of 1.00

If the removal of facts about one entity results in the unintentional loss of data about another entity, this is referred to as a👎 _____.

Select one:

- a. update anomaly ✗
- b. deletion anomaly
- c. insertion anomaly
- d. normalization anomaly

Question **15**

Correct

Mark 1.00 out of 1.00

A determinant of a functional dependency may or may not be unique in a relation.

Select one:

- True ✓
- False

Question **16**

Correct

Mark 1.00 out of 1.00

Every time we break up a relation during the normalization process, we may have to create a referential integrity constraint.

Select one:

- True ✓
- False

Question **17**

Correct

Mark 1.00 out of 1.00

A relation is in Boyce-Codd normal form (BCNF) if and only if it is in 3NF and _____.

Select one:

- a. every determinant is a candidate key ✓
- b. all non-key attributes are determined by the entire primary key
- c. every attribute is a candidate key
- d. there are no non-key attributes determined by another non-key attribute

Question **18**

Correct

Mark 1.00 out of 1.00

A candidate key is one of a group of keys that may serve as the primary key in a relation.

Select one:

- True ✓
- False

Question **19**

Correct

Mark 1.00 out of 1.00

Surrogate keys are normally not shown on forms or reports.

Select one:

- True ✓
- False

Question **20**

Correct

Mark 1.00 out of 1.00

The only reason(s) for having relations is to _____.

Select one:

- a. Both store equation components and store equation results are correct
- b. store instances of functional dependencies ✓
- c. store equation components
- d. store equation results

Question **21**

Incorrect

Mark 0.00 out of 1.00

Relations are classified into *normal forms* based on the types of modification anomalies that they are vulnerable to.

Select one:

- True
- False ✗

Question **22**

Correct

Mark 1.00 out of 1.00

A referential integrity constraint limits the values of a foreign key.

Select one:

- True ✓
- False

Question **23**

Correct

Mark 1.00 out of 1.00

When designing a database, one of the candidate keys in a relation is selected as the _____.

Select one:

- a. composite key
- b. surrogate key
- c. primary key ✓
- d. foreign key

Question **24**

Incorrect

Mark 0.00 out of 1.00

Which of the following is true about the functional dependency (A, B) → (C, D)?

Select one:

- a. A and B together are determined by C and D together. ✗
- b. C and D together determine A.
- c. A is the determinant of C.
- d. A and B together determine D.

Question **25**

Incorrect

Mark 0.00 out of 1.00

A defining requirement for Boyce-Codd Normal Form (BCNF) is that every candidate key must be a determinant.

Select one:

- True ✗
- False

Question **26**

Correct

Mark 1.00 out of 1.00

Any table that meets the definition of a relation is said to be in first normal form (1NF).

Select one:

- True ✓
- False

Question **27**

Correct

Mark 1.00 out of 1.00

A surrogate key is an artificial column that is added to a relation to be its primary key.

Select one:

- True ✓
- False

Question **28**

Incorrect

Mark 0.00 out of 1.00

Which of the following is true for a *relation?*

Select one:

- a. The order of the rows is unimportant.
- b. Entities in a column vary as to kind.
- c. The order of the columns is important. ✗
- d. More than one column can use the same name.

Question **29**

Correct

Mark 1.00 out of 1.00

A row can be uniquely identified by a key.

Select one:

- True ✓
- False

Question **30**

Correct

Mark 1.00 out of 1.00

A *relation* is also known as a _____.

Select one:

- a. table ✓
- b. relationship
- c. tuple
- d. attribute

Question **31**

Correct

Mark 1.00 out of 1.00

In relational terms as defined by E.F. Codd, a row is called a *tuple*.

Select one:

- True ✓
- False

Question **32**

Correct

Mark 1.00 out of 1.00

A deletion anomaly exists when deleting data about one entity results in the loss of data about another entity.

Select one:

- True ✓
- False

Question **33**

Correct

Mark 1.00 out of 1.00

A *tuple* is also known as a _____.

Select one:

- a. field
- b. table
- c. relation
- d. row ✓

Question **34**

Correct

Mark 1.00 out of 1.00

Given the functional dependency A → B, then it is necessarily true that B → A.

Select one:

- True
- False ✓

Question **35**

Correct

Mark 1.00 out of 1.00

A combination of two or more columns used to identify particular rows in a relation is a _____.

Select one:

- a. surrogate key
- b. foreign key
- c. composite key ✓
- d. record

Question **36**

Correct

Mark 1.00 out of 1.00

If a table is designed so that every determinant is a candidate key, then that relation is in _____.

Select one:

- a. First Normal Form
- b. Third Normal Form
- c. Second Normal Form
- d. Boyce-Codd Normal Form ✓

Question **37**

Correct

Mark 1.00 out of 1.00

A functional dependency is a relationship between attributes such that if we know the value of one attribute, we can determine the value of the other attribute.

Select one:

- True ✓
- False

Question **38**

Correct

Mark 1.00 out of 1.00

The condition that a non-key attribute determines another non-key attribute is known as transitive dependency.

Select one:

- True ✓
- False

Question **39**

Correct

Mark 1.00 out of 1.00

Functional dependencies can involve groups of attributes.

Select one:

- True ✓
- False

Question **40**

Correct

Mark 1.00 out of 1.00

Having to enter facts about two entities when we want to enter facts about only one is an example of _____.

Select one:

- a. deletion anomaly
- b. normalization anomaly
- c. insertion anomaly ✓
- d. update anomaly

Question **41**

Incorrect

Mark 0.00 out of 1.00

A relation is in second normal form (2NF) if and only if it is in 1NF and _____.

Select one:

- a. there are no non-key attributes determined by another non-key attribute
- b. every attribute is a candidate key
- c. every candidate key is a determinant ✗
- d. all non-key attributes are determined by the entire primary key

Question **42**

Correct

Mark 1.00 out of 1.00

Attribute Y is functionally dependent on attribute X if the value of attribute X determines the value of Y.

Select one:

- True ✓
- False

Question **43**

Correct

Mark 1.00 out of 1.00

The columns of a relation are sometimes called *tuples*.

Select one:

- True
- False ✓

Question **44**

Correct

Mark 1.00 out of 1.00

When designing or normalizing relations, each relation should have only one theme.

Select one:

- True ✓
- False

Question **45**

Incorrect

Mark 0.00 out of 1.00

A relation that is in domain/key normal form is assured to be free from all anomalies.

Select one:

- True
- False ✗

Question **46**

Correct

Mark 1.00 out of 1.00

In the functional dependency shown as A → B, B is the determinant.

Select one:

- True
- False ✓