Test: DFo Database Foundations Midterm Exam

Review your answers, feedback, and question scores below. An asterisk (*) indicates a correct answer.

Section 1

(Answer all questions in this section)

1. If information requirements are clearly communicated during conceptual modeling the following will result:

Delays due to reworking model caused by incorrect assumptions

A well designed conceptual model (*)

A conceptual model that does not fully reflect the business will be created.

Some business rules may not be taken into account

Correct

(1/1) Points

2. Business rules are important because_____.

They allow the developer to understand the relationship and constraints of the participating entities (*)

They can become outdated quickly.

They are complex and difficult to understand.

They can all be incorporated into the database design structure.

Correct

(1/1) Points

3. When completing the conceptual modeling process we must take into account the following:

Business Rules

Assumptions

Problems

All of the above (*)

Correct

(1/1) Points

4. Documenting Business Requirements helps developers control the scope of the system and prevents users from claiming that the new system does not meet their business requirements. True or False?

True (*)

False

Correct

(1/1) Points

5. The reason or drive for using databases rather than files has been ... (Choose 3)
(Choose all correct answers)

Availability of data to a diverse set of users (*)
Reduced redundancy of data (*)
Use of blocks
Integration of data for easier access and modification for complex transactions (*)

Correct

(1/1) Points

Section 1

(Answer all questions in this section)

6. Which one of the following is not a goal of this course:

Describing the purpose of a relational database.
Describing key business requirements of a database.
Database performance tuning. (*)
Using data modeling to build a database.

Correct

(1/1) Points

7. The strategies for learning used in this course include:

Instructor led training
Industry recognized certification
Project driven curriculum
All of the above (*)

Correct

(1/1) Points

8. Which transformation in computing allows for storage and delivery of applications and data over the internet?

Grid Computing
Cloud Computing (*)
Mainframe computing
Desktop computing

Correct

(1/1) Points

9. Which of the following transformations in computing led to the increase in graphical user interface (GUI) applications?

Desktop computing (*)

Client/Server Computing

Grid Computing

Mainframe computing

Correct

(1/1) Points

10. The transformations that have occurred in the computing world progressing in this order:

Mainframe computing, Desktop computing, Client/Server Computing, Grid computing. (*)

Grid Computing, Desktop Computing, Mainfram Computing, Client/Server Computing

Desktop computing, Grid computing, Client/Server computing, Mainframe computing.

Mainframe Computing, Desktop Computing, Grid Computing, Client/Server Computing.

Correct

(1/1) Points

Section 1

(Answer all questions in this section)

11. Information is the result of combining, comparing and performing calculations on data.

True (*)

False

Correct

(1/1) Points

12. A network database comprises of a collection of records connected to one another through links.

True (*)

False

Correct

(1/1) Points

13. Which of the following is not a stage in the Database Development Process?

Design

Strategy and Analysis
Build
Reporting (*)
Correct

(1/1) Points

14. The advantages of an object-oriented data model are:
Reduced Maintenance
Real-World Modeling
Both A and B. (*)
Neither A or B.
Correct

(1/1) Points

15. A _____ model describes a database in terms of tables, columns, and joins between tables.
Relational (*)
Hierarchical
Object Oriented
Network
Correct

(1/1) Points

Section 2

(Answer all questions in this section)

16. The components of a relationship include all of the following except :
Optionality
Relational Integrity (*)
Cardinality
Names
Correct

(1/1) Points

17. A relationship can be between _____.
two entities
an entity and itself
multiple entities
All of the above. (*)
Correct

(1/1) Points

18. The cardinality of a relationship can be _____. (Choose two)
(Choose all correct answers)

one to one☑

one or more (*)☑

one and only one (*)☐

many to many☐

Incorrect. Refer to Section 2 Lesson 5.

(0/1) Points

19. Matrix Diagrams are used to verify that all _____ have been identified for an ERD.

keys○

entities○

relationships (*)◉

attributes○

Correct

(1/1) Points

20. In a relational database system, the next step after creating a conceptual data model is to convert it to a _____ .

Logical data model (*)◉

External data model○

Internal data model○

An entity-relation data model○

Correct

(1/1) Points

Section 2

(Answer all questions in this section)

21. An ERD is an example of a _____ Model.

Data Integrity○

Physical○

Network○

Conceptual (*)◉

Correct

(1/1) Points

22. The logical model determines relationship optionality and cardinality

True (*)

False

Correct

(1/1) Points

23. A unique identifier must be made up of more than one attribute. True or False?

True

False (*)

Correct

(1/1) Points

24. The primary key uniquely identifies each row in a table and is based on the _____ from the logical design.

Secondary UID

Primary UID (*)

Composite UID

Candidate UID

Incorrect. Refer to Section 2 Lesson 4.

(0/1) Points

25. The candidate UID that is chosen to identify an entity is called the Primary UID; other candidate UIDs are called Secondary UIDs.

No, each Entity can only have one UID, the secondary one.

No, after UIDs are first sorted, the first one is called the Primary UID, the second is the Secondary UID, etc.

Yes, this is the way UID's are named. (*)

No, it is not possible to have more than one UID for an Entity.

Correct

(1/1) Points

Section 2

(Answer all questions in this section)

26. Unique Identifiers...

Distinguish all entities in a database

Distinguish nothing

Distinguish one instance of an entity from all other instances of that entity (*)

Distinguish one entity from another.

Correct

(1/1) Points

27. A model is considered to be Implementation-Free if it can be implemented using ____ of the database software models such as hierarchical, network or relational.

any (*)

only one

none

Correct

(1/1) Points

28. Data models are drawn to show users the actual Data that their new system will contain; only Data listed on the Diagram can be entered into the Database. True or False?

True

False (*)

Correct

(1/1) Points

29. Which of the following statements is true regarding Implementation-Free logical models?

The model does not need to implemented on a DBMS.

The model stays the same regardless of the DBMS or operating system used. (*)

The model changes depending on operating system that is being used.

The model changes depending on the relational database software being used

Correct

(1/1) Points

30. The conceptual model does all of the following except:

Describes the needs of the business.

Documents type of operating system to be used. (*)

Prevents mistakes and misunderstandings.

Takes into account regulations and laws goverining the industry being addressed.

Correct

(1/1) Points

Section 2

(Answer all questions in this section)

31. Attributes that can be divided into smaller subparts are called_____.

Volatile Attribute

Single Attribute

Mandatory Attribute

Composite Attribute (*)

Correct

(1/1) Points

32. A/an _____ is a piece of information that in some way describes an entity. It is a property of the entity and it quantifies, qualifies, classifies, or specifies the entity.

Table

ERD

Process

Attribute (*)

Correct

(1/1) Points

33. When creating entities in a logical model you must follow these rules: (Choose Two)

(Choose all correct answers)

Exclude Attributes

Include Attributes (*)

Name them in Singular (*)

Name them in Plural

Correct

(1/1) Points

34. To identify an attribute as part of a unique identifier on an ER diagram, the # symbol goes in front of it. True or False?

True (*)

False

Correct

(1/1) Points

35. A row is called a record.

True (*)

False

Correct

(1/1) Points

Section 2

(Answer all questions in this section)

36. What does single table refer to? (Choose Two)

(Choose all correct answers)

A type of database storage method where all of the data elements are stored on top of each other.☐

Non-relational systems that typically store each table and index in separate files and often do not support the SQL language. (*)☑

A database where all of the data is stored in one large table. (*)☑

A fully-relational database system like Microsoft's SQL Server or Oracle's database systems.☐

Correct

(1/1) Points

Section 3

(Answer all questions in this section)

37. Modeling historical data can produce a unique identifier that includes dates. True or False?

True (*)◉

False○

Correct

(1/1) Points

38. Business rules are important to data modelers. True or False?

True (*)◉

False○

Correct

(1/1) Points

39. An entity without repeated values is said to be in _____.

2nd normal form○

3rd normal form○

4th normal form○

1st normal form (*)◉

Correct

(1/1) Points

40. Which of the following is not true regarding normalization:

It is the process of organizing the attributes and tables of a relational database to minimize redundancy.

It does not impact the performance of the database. (*)

It helps with the performance of the database.

It assists in handling insert, update and delete anomalies.

Correct

(1/1) Points

Section 3

(Answer all questions in this section)

41. A table is in 2NF if the table is in 1NF and what other condition is met?

There are no functional dependencies.

There are no null values in primary key fields.

There are no attributes that are not functionally dependent on the relation's entire primary key. (*)

There are no repeating groups.

Correct

(1/1) Points

42. A table is in 2NF if

It meets the requirements for the 1 NF.

Each non-key attribute is fully functional dependent on the table's primary key.

Both A and B must be true. (*)

Neither A or B must be true.

Correct

(1/1) Points

43. Which of the following is true about subtypes?

One instance of a supertype may belong to two subtypes.

Subtypes should not be exhaustive.

Subtypes must not be mutually exclusive.

Subtypes must be mutually exclusive. (*)

Correct

(1/1) Points

44. Intersection Entities often have the relationships participating in the UID, so the relationships are often barred. True or False?

True (*)

False

Correct

(1/1) Points

45. All relationships participating in an arc must be mandatory. True or False?

True

False (*)

Correct

(1/1) Points

Section 3

(Answer all questions in this section)

46. A non-transferable relationship means the detail _____ be changed to point to a new master.

can

can not (*)

sometimes can

Incorrect. Refer to Section 3 Lesson 1.

(0/1) Points

47. Intersection Entities are at the _____ end of the newly created 1:M (Parent:Child) relationship;

Barred

Parent

Single

Child (*)

Correct

(1/1) Points

48. _____ are converted to rows in the physical design.

columns

attributes

instances (*)

entities

Correct

(1/1) Points

49. Attribute names are converted to column names by _____.

Replacing underscores with dashes.

Replacing numbers with letters.

Replacing spaces with underscores. (*)

Replacing periods with commas.

Correct

(1/1) Points

50. Table names can contain all of the following except:

Spaces (*)

Letters

Some special characters

Numbers

Correct

(1/1) Points