

Question 1

Which of these is the most likely benefit gained from building a conceptual data model, if it was then shared and understood widely across a business?

Answers 1		Correct/Incorrect
1	Reduced ambiguity and misunderstanding.	Correct
2	Greater profit margins for every transaction.	Incorrect
3	Increased duplication of unnecessary data.	Incorrect
4	Light reading material for long train journeys.	Incorrect

Question 2

Complete the statement: 'An ER diagram shows the relationships between [...]'.

Answers 2		Correct/Incorrect
1	entities.	Correct
2	objects.	Incorrect
3	attributes.	Incorrect
4	concepts.	Incorrect

Question 3

Which of the following are benefits of conceptual data modelling? Select three.

Answers 3		Correct/Incorrect
1	Improve query performance of databases.	Incorrect
2	To represent data in an understandable way.	Correct
3	Facilitate communication of understanding.	Correct
4	Detect missing data.	Correct

Question 4

For any given example, following the same process for constructing a physical model will always produce the same models.

True or false?

Answers 4		Correct/Incorrect
1	False.	Correct
2	True.	Incorrect

Question 5

Which is the highest model that you would expect to find the following constraint?

'A date of birth will be in the form YYYY-MM-DD and shall be a valid date'.

Answers 5		Correct/Incorrect
1	Physical model.	Correct
2	Logical model.	Incorrect
3	Conceptual model.	Incorrect

Question 6

Which is the highest model that you would expect to find the following constraint?

'A person may own one or more pet'.

Answers 6		Correct/Incorrect
1	Conceptual model.	Correct
2	Logical model.	Incorrect
3	Physical model.	Incorrect

Question 7

Complete the statement: 'A foreign key [...]'.
 is an attribute that references a primary key attribute.

Answers 7		Correct/Incorrect
1	is an attribute that references a primary key attribute.	Correct
2	uniquely identifies a relation.	Incorrect
3	is a key that is made up of multiple attributes.	Incorrect
4	is an attribute that you only need to store a single value for.	Incorrect

Question 8

Why would a person's name, or an attribute derived from a person's name, be a poor choice for a key? Select two.

Answers 8		Correct/Incorrect
1	A person may have multiple names.	Correct
2	A name is not unique.	Correct
3	It is not a bounded length attribute.	Incorrect
4	Names are made up of characters.	Incorrect

Question 9

A key that is made up of multiple attributes is known as what kind of primary key?

Answers 9		Correct/Incorrect
1	Composite.	Correct
2	Joined.	Incorrect
3	Split.	Incorrect
4	Candidate.	Incorrect

Question 10

If no attributes can be used to ensure uniqueness, or the use of a composite primary key is inappropriate, then it is normal to introduce a new attribute that is guaranteed to be unique.

What would this attribute be called?

Answers 10		Correct/Incorrect
1	Surrogate primary key.	Correct
2	Associative primary key.	Incorrect
3	Foreign key.	Incorrect
4	Composite primary key.	Incorrect

Question 11

What are the two types of attribute?

Answers 11		Correct/Incorrect
1	Single-valued and multi-valued.	Correct
2	Date and time.	Incorrect
3	Composite and candidate.	Incorrect
4	Primary and foreign.	Incorrect

Question 12

In a physical data model, what is an entity?

Answers 12		Correct/Incorrect
1	A table.	Correct
2	A row.	Incorrect
3	A column.	Incorrect
4	A database.	Incorrect

Question 13

In a physical data model, what is an attribute?

Answers 13**Correct/Incorrect**

1 A column.

Correct

2 A row.

Incorrect

3 A table.

Incorrect

4 A database.

Incorrect

Question 14

In a physical data model, what is an instance of an entity?

Answers 14**Correct/Incorrect**

1 A row.

Correct

2 A table.

Incorrect

3 A column.

Incorrect

4 A database.

Incorrect

Question 15

Which type of anomaly is described in the following statement?

'Data changed in one place may not be changed in another, causing the database to become inconsistent'.

Answers 15**Correct/Incorrect**

1 Update anomaly.

Correct

2 Deletion anomaly.

Incorrect

3 Insertion anomaly.

Incorrect

Question 16

Which type of anomaly is described in the following statement?

'Data cannot be added to the database without adding a different type of data, which should not be required'.

Answers 16**Correct/Incorrect**

1 Insertion anomaly.

Correct

2 Deletion anomaly.

Incorrect

3 Update anomaly.

Incorrect

Question 17

Which type of anomaly is being described in the following statement?

'Data being removed from the database can cause unrelated data to be removed unintentionally'.

Answers 17**Correct/Incorrect**

1	Deletion anomaly.	Correct
2	Update anomaly.	Incorrect
3	Insertion anomaly.	Incorrect

Question 18

In data modelling, which of the following terms is often used as a synonym for an entity?

Answers 18**Correct/Incorrect**

1	Table.	Correct
2	Row.	Incorrect
3	Column.	Incorrect
4	Spreadsheet.	Incorrect

Question 19

Given the following table, how would you make it conform to second normal form?

Animal ID	Owner ID	Owner Name	Animal Breed
1	1	Alice	Chihuahua
1	2	Graham	Chihuahua
2	1	Alice	Yorkie
3	1	Alice	Basset Hound

Answers 19**Correct/Incorrect**

1	Create two new tables - owner and animal.	Correct
2	Create a new table – animal.	Incorrect
3	Create a new table – owner.	Incorrect
4	Delete all duplicated data.	Incorrect

Question 20

Complete the sentence: 'If second normal form talks about removing dependencies on only some attributes in a key, then third normal form talks about removing [...]'.

Answers 20**Correct/Incorrect**

1 dependencies on non-key attributes.

Correct

2 multi-valued attributes.

Incorrect

3 partial functional dependencies.

Incorrect

4 Codd's key.

Incorrect