1. Determine the candidate key(s) for the relation R(A, B, C, D), given the functional dependency and multi-valued dependency:
i. A ->-> B
ii. A -> C, D

There are two candidate keys: A and B

There is one candidate key: B

There is one composite candidate key: (A, B)

There is one candidate key: A

2. Why is the design of a database an important consideration?

It ensures that the database can be properly backed up and restored.

All of the above

It determines what data can be stored

It helps with data consistency

3. Given the scenario: A customer can make many purchases, and each purchase is for one or more items. Each purchased item is sold at the current price of the corresponding item sold by a company. The current price of an item changes over time, and each item is supplied by several suppliers.

Which aspect of this scenario can show the line-item pattern?
i. The relationship between customer and purchase
ii. The relationship between purchase and purchased item
iii. The relationship between purchased item and item
iv. The relationship between supplier and item

ii, iii and iv

ii and iii

i and ii

i, ii, iii and iv

4. What can an ED diagram be used for?
i. It can determine whether the data requirements are correct.
ii. It documents the data requirements pictorially.
iii. It can be used to communicate with users about the data requirements gathered thus far.
iv. It can help uncover missing data requirements.

ii and iii

i, ii, iii and iv

i and iv

ii, iii and iv

5. Which characteristic does not describe a relation?

A relation can have a multivalued attribute.

None of the above

The name of attribute cannot more than once in a relation.

The location of a tuple in a relation does not affect the interpretation of the attribute values.

5. Given this scenario: A customer can make many purchases, and each purchase is for one or more items. Each purchased item is sold at the current price of the corresponding item sold by a company. The current price of an item changes over time, and each item is supplied by several suppliers.

Which aspect of this scenario shows the N:M strong pattern?

The relationship between customer and purchase

The relationship between purchased item and item

The relationship between purchase and purchased item

The relationship between supplier and item

7. Which statement about entity and attribute is correct?

An entity cannot have composite attributes.

An entity is an aspect of the attribute that we want to keep track of.

An attribute is one aspect of the entity that we want to keep track of.

A composite attribute should be depicted in the ERD as an entity.

8.Determine the set of relations in 3NF and 4NF for the relation R(A, B, C, D) and the functional dependency and multi-valued dependency:

i. A ->-> B

ii. A -> C, D

R1(A, C, D) with primary key A and foreign key A, and R2(A, B) with composite primary key (A,B).

R1(A, C, D) with primary key A, and R2(A, B) with composite primary key (A,B), and foreign key A.

R(A, B, C, D) with composite primary key (A,B)

R1(A, C, D) with primary key A, and R2(B, C, D) with primary key B

9. What is the purpose of normalisation?

Allow proper data analysis

Improve speed of retrieving data

Eliminate data redundancy

Eliminate modification anomalies

10.Which statement(s) is(are) true about an id-dependent entity?

i. An id-dependent entity has a composite identifier.

ii. An id-dependent entity does not have an identifier.
iii. An id-dependent entity has the same identifier as the entity whose existence it is dependent on.

All 3 statements

Only statement ii

Only statement iii

Only statement I