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Completed on	miércoles, 11 enero 2023, 16:53
Time taken	25 mins 4 secs
Grade	5.00 out of 10.00 (50%)

Question 1
Incorrect
Mark 0.00 out of 1.00
Flag question

Given the following query

```
SELECT CUST_ID, MAX(CUST_YEAR_OF_BIRTH)
FROM CUSTOMERS
GROUP BY CUST_ID
```

Select one:

- ☐ a. The given query is wrong. Since CUST_YEAR_OF_BIRTH is affected by a grouping function, it has to be included in the GROUP BY as follows:
SELECT CUST_ID, MAX(CUST_YEAR_OF_BIRTH)
FROM CUSTOMERS
GROUP BY CUST_ID, CUST_YEAR_OF_BIRTH
- ☐ b. Since CUST_ID is the primary key, each group is formed just by one row and so, the given query is equivalent to the following one:
SELECT CUST_ID, CUST_YEAR_OF_BIRTH FROM CUSTOMERS
- ☐ c. Since CUST_ID is the primary key, each group is formed just by one row and so, the given query is equivalent to the following one:
SELECT MAX(CUST_YEAR_OF_BIRTH)
FROM CUSTOMERS
- ☐ d. Since CUST_ID is the primary key, the given query is wrong; the GROUP BY cannot be applied to the primary key of the table.
- ☒ e. Since CUST_ID is the primary key, the given query is equivalent to the following one: SELECT CUST_ID, MAX(CUST_YEAR_OF_BIRTH) FROM CUSTOMERS
- ☐ f. I don't answer this question

The correct answer is: Since CUST_ID is the primary key, each group is formed just by one row and so, the given query is equivalent to the following one: SELECT CUST_ID, CUST_YEAR_OF_BIRTH FROM CUSTOMERS

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Question 2

Correct

Mark 1.00 out of 1.00

Flag question

Given the following Entity Relationship diagram

Which one of the following options is true?

Select one:

- ☐ a. Although the subentity cannot have a different primary key that its parent key, in this case there is no problem at all because the MAC_ADRESS appears in the third position in the attributes.
- ☒ b. It is not wright, because the primary key of a subentity is exactly the same that has its parent key. A weak entity cannot have a different primary key.
- ☐ c. Although the subentity cannot have a different primary key that the parent key, in this case there is no problem at all because the MAC_ADRESS is a VARCHAR and PROD_ID is NUMBER.
- ☐ d. Its is wright, because the name of the entities are very different
- ☐ e. I don't answer this question
- ☐ f. It is wright, because the primary key of a subentity is independent that the one defined for its parent key.

The correct answer is: It is not wright, because the primary key of a subentity is exactly the same that has its parent key. A weak entity cannot have a different primary key.

Question 3

Given the following SQL code:

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The correct answer is: It is not wright, because the primary key of a subentity is exactly the same that has its parent key. A weak entity cannot have a different primary key.

Question 3
Correct
Mark 1.00 out of 1.00
Flag question

Given the following SQL code:
SELECT CUST_ID, CUST_YEAR_OF_BIRTH
FROM CUSTOMERS
Which one of the following options are **WRONG**?

Select one:

- ☐ a. The following query brings less number of rows than the given one because it introduces a WHERE satisfied just by some customers:
SELECT CUST_ID, CUST_YEAR_OF_BIRTH
FROM CUSTOMERS
WHERE CUST_GENDER='F'
- ☒ b. The following query brings less number of rows than the given one because it outputs more attributes in the SELECT:
SELECT CUST_ID, CUST_YEAR_OF_BIRTH, COUNTRY_ID
FROM CUSTOMERS
- ☐ c. The following query produces the same number of rows because the WHERE condition covers the full table:
SELECT CUST_ID, CUST_YEAR_OF_BIRTH
FROM CUSTOMERS
WHERE CUST_GENDER IS NULL
OR CUST_GENDER IS NOT NULL;
- ☐ d. The following query brings less number of rows than the given one because it introduces a GROUP BY:
SELECT COUNTRY_ID, COUNT(*)
FROM CUSTOMERS
GROUP BY COUNTRY_ID
- ☐ e. The following query produces the same number of rows because the order of the attributes in the SELECT does not have any effect in the number of rows:
SELECT CUST_YEAR_OF_BIRTH, CUST_ID
FROM CUSTOMERS
- ☐ f. I don't answer this question

The correct answer is: The following query brings less number of rows than the given one because it outputs more attributes in the SELECT:
SELECT CUST_ID, CUST_YEAR_OF_BIRTH, COUNTRY_ID
FROM CUSTOMERS

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The correct answer is: The following query brings less number of rows than the given one because it outputs more attributes in the SELECT:
`SELECT CUST_ID, CUST_YEAR_OF_BIRTH, COUNTRY_ID
FROM CUSTOMERS`

Question 4
Correct
Mark 1.00 out of 1.00
Flag question

Let $R(A,B,C,D,E)$ be a table with primary key (A,B) and two functional dependencies: $A \rightarrow D$ and $B \rightarrow E$, the table R

Select one:

- ☐ a. is not in First Normal Form.
- ☐ b. is in Third Normal Form and it is not in Boyce-Codd Normal Form.
- ☐ c. is in the Spatial Normal Form.
- ☒ d. is in First Normal Form and it is not in Second Normal Form.
- ☐ e. is in Boyce-Codd Normal Form.
- ☐ f. All the other answers are wrong.

The correct answer is: is in First Normal Form and it is not in Second Normal Form.

Question 5
Incorrect
Mark 0.00 out of 1.00
Flag question

What type of constraint must be defined in order to create a candidate key in the relational model?

Select one:

- ☐ a. I do not answer the question.
- ☐ b. A primary key constraint or a foreign key constraint.
- ☐ c. A unique key constraint.
- ☒ d. A unique key constraint or a foreign key constraint.
- ☐ e. A unique key constraint or a check constraint.

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☐ b. is in Third Normal Form and it is not in Boyce-Codd Normal Form.

☐ c. is in the Spatial Normal Form.

☒ d. is in First Normal Form and it is not in Second Normal Form. ✓

☐ e. is in Boyce-Codd Normal Form.

☐ f. All the other answers are wrong.

The correct answer is: is in First Normal Form and it is not in Second Normal Form.

Question 5
Incorrect
Mark 0.00 out of 1.00
Flag question

What type of constraint must be defined in order to create a candidate key in the relational model?

Select one:

☐ a. I do not answer the question.

☐ b. A primary key constraint or a foreign key constraint.

☐ c. A unique key constraint.

☒ d. A unique key constraint or a foreign key constraint. ✗

☐ e. A unique key constraint or a check constraint.

☐ f. A foreign key constraint or a check constraint.

The correct answer is: A unique key constraint.

Question 6
Correct
Mark 1.00 out of 1.00

Given the following view definition:

```
CREATE VIEW View_Products as
  Select prod_name, prod_category, prod_list_price From products
  Where prod_name < 'PUMPERNIUM' AND prod_category < 'ELECTRONICS'
```

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Question 6
Correct
Mark 1.00 out of 1.00
Flag question

Given the following view definition:
CREATE VIEW View_Products as
Select prod_name, prod_category, prod_list_price From products
Where upper(prod_category) LIKE 'PHOTO'
With check option;

It can be stated that:

Select one:

- ☐ a. New products of category 'ELECTRONICS' can be inserted through the view.
- ☐ b. I do not answer the question
- ☒ c. New products of the category 'photo' can be inserted through the view.
- ☐ d. New products with a category that is not exactly 'PHOTO' but contains the substring 'PHOTO' can be inserted through the view.
- ☐ e. New products of the category 'photo' cannot be inserted through the view.
- ☐ f. New products with a category that is not exactly 'PHOTO' but contains the substring 'PHOTO' are shown by the view.

The correct answer is: New products of the category 'photo' can be inserted through the view.

Question 7
Incorrect
Mark 0.00 out of 1.00
Flag question

```
graph LR
    E1["E1  
# * a1"]
    E2["E2  
U * a2"]
    E3["E3  
# * a3"]
    E1 -- contains --> E2
    E2 -.-> E3
```

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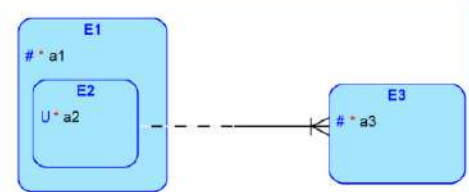
Captura de pantalla realizada
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☐ f. New products with a category that is not exactly 'PHOTO' but contains the substring 'PHOTO' are shown by the view.

The correct answer is: New products of the category 'photo' can be inserted through the view.

Question 7
Incorrect
Mark 0.00 out of 1.00
Flag question



According to the given Entity-Relationship Model and the rules to transform an Entity-Relationship model into a relational one, the primary key of table corresponding to E3 is

Select one:

- ☐ a. (a2,a3)
- ☐ b. a2
- ☒ c. a3
- ☐ d. (a1,a2,a3)
- ☐ e. (a1, a3)
- ☐ f. I do not answer the question.

The correct answer is: (a1, a3)

Question 8
Correct

Let Table_1(at1,at2,at3) and Table_2(message) be tables in the database and TR1 a trigger with the following definition

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The correct answer is: (a1, a3)

Question 8
Correct
Mark 1.00 out of 1.00
Flag question

Let Table_1(at1,at2,at3) and Table_2(message) be tables in the database and TR1 a trigger with the following definition

```
CREATE TRIGGER TR1
BEFORE INSERT ON Table_1
FOR EACH ROW
BEGIN
    Insert into Table_2 values (:new.at1 || ' ' || :new.at2);
END TR1;
```

If the DML statement "insert into Table_1 values ('v_at1','v_at2','v_at3');" is executed, then

Select one:

- ☐ a. The trigger will be executed, a new row will be inserted into Table_2 and no row will be inserted into Table_1, because the TRIGGER does not allow a multiple transaction.
- ☐ b. A new row will be inserted into Table_1 but no row will be inserted into Table_2, because the INSERT is not syntactically correct.
- ☒ c. The trigger will be executed, no errors will arise, a new row will be inserted into Table_1 and another row will be inserted into Table_2.
- ☐ d. An error will arise, because the variable :new can only be used in triggers without the FOR EACH ROW clause.
- ☐ e. An error will arise, because Table_1 and Table_2 must have the same number of attributes

The correct answer is: The trigger will be executed, no errors will arise, a new row will be inserted into Table_1 and another row will be inserted into Table_2.

Question 9
Incorrect
Mark 0.00 out of 1.00
Flag question

Given the SQL code:

```
SELECT *
FROM SALES
WHERE AMOUNT_SOLD = MAX(AMOUNT_SOLD)
```

Which of the following options are correct?

Select one:

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The correct answer is: The trigger will be executed, no errors will arise, a new row will be inserted into Table_1 and another row will be inserted into Table_2.

Question 9

Incorrect

Mark 0.00 out of 1.00

Flag question

Given the SQL code:

```
SELECT *
FROM SALES
WHERE AMOUNT_SOLD = MAX(AMOUNT_SOLD)
Which of the following options are correct?

Select one:



- ☐ a. The given code is correct, but it is very inefficient because the MAX function takes a big time to be executed.
- ☐ b. The given SQL code is wrong and other two proposed codes are right and they equally correct it.
- ☒ c. The query is correct, but it would be better the following code:  


```
SELECT *
FROM SALES
WHERE AMOUNT_SOLD =
(SELECT MAX(AMOUNT_SOLD)
FROM SALES)
```
- ☐ d. The given code is correct.
- ☐ e. The query is correct, but it would be better the following code:  


```
SELECT *
FROM SALES
WHERE AMOUNT_SOLD >= ALL
(SELECT AMOUNT_SOLD
FROM SALES)
```
- ☐ f. I don't answer this question

```

The correct answer is: The given SQL code is wrong and other two proposed codes are right and they equally correct it.

Question 10

Incorrect

Mark 0.00 out of

Given the following Entity Relationship diagram

PRODUCTS

OTHER PRODUCTS

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Question 10

Incorrect

Mark 0.00 out of 1.00

Flag question

Given the following Entity Relationship diagram

PRODUCTS

* PROD_ID

o PROD_NAME

o PRICE

OTHER_PRODUCTS

* PROD_ID

o PROD_NAME

Which one of the following options is true?

Select one:

- ☐ a. I don't answer this question.
- ☐ b. The diagram is wrong because PROD_ID are repeated in two different entities as the primary key. It is right if in OTHER_PRODUCTS the primary key is set to PROD_NAME.
- ☐ c. The diagram is right.
- ☒ d. The diagram is wrong because PROD_NAME and PROD_ID attributes are repeated in two different entities.
- ☐ e. The diagram is almost wright, but OTHER_PRODUCTS must be named PRODUCTS because PROD_NAME and PROD_ID attributes are repeated in both entities.
- ☐ f. The diagram is wrong because two attributes are repeated in two different entities. Only the primary key can be repeated, but not the other attribute (PROD_NAME).

The correct answer is: The diagram is right.

Provisional Marks (updated 11/1)

Jump to...

Groups Presentation (updated)

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