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Finish review

Started on Thursday, 18 February 2021, 11:02 AM

State Finished

Completed on Thursday, 18 February 2021, 11:32 AM

Time taken 30 mins

Grade 23.00 out of 30.00 (77%)

Question 1

Incorrect

Mark 0.00 out of 1.00

Flag question

A relational database contains two tables Student and Performance as shown below:

Roll no.	Student name
1	Amit
2	Priya
3	Vinit
4	Rohan
5	Smita

Roll no.	Subject code	Marks
1	A	86
1	B	95
1	C	90
2	A	89
2	C	92
3	C	80

The primary key of the Student table is Roll_no. For the Performance table, the columns Roll_no. and Subject_code together form the primary key. Consider the SQL query given below:

```
SELECT S.Student_name,
       sum(P.Marks) FROM Student S,
       Performance P
      WHERE P.Marks > 84
      GROUP BY S.Student_name;
```

The number of rows returned by the above SQL query is

- None of these
- 3
- 2
- 5
- 1
- 4

Your answer is incorrect.

The correct answers are:

5,
None of these

Question 2

Correct

Mark 1.00 out of 1.00

Flag question

A person entity has the phone_number as the multivalued attribute. What can be said about the phone_number attribute

Select one:

- It can take 0.1 or any number of values
- It can take either 1 value or 2 values
- It is a combination of different values which can be further broken down into smaller values
- It must take at least two values

The correct answer is: It can take 0.1 or any number of values

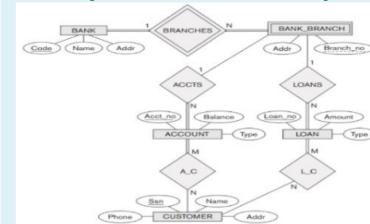
Question 3

Correct

Mark 1.00 out of 1.00

Flag question

Based on the figure below which statement out of the following is true



Select one:

- Bank_Branch is a strong entity type and Bank is a weak entity type
- Bank_Branch is a weak entity type and Bank is a strong entity type
- Customer is a weak entity type and Account is a strong entity type

Customer is a strong entity type and Account is a weak entity type

The correct answer is: Bank_Branch is a weak entity type and Bank is a strong entity type

Question 4

Correct

Mark 1.00 out of 1.00

Flag question

For the relation branch having the schema
branch (branch_name, branch_city, assets).

Convert the following Relation Algebra to SQL

$\sigma_{\text{assets} > 1000}(\text{branch})$

(ignoring formatting and typos errors)

Select one:

SELECT *

FROM assets

WHERE branch > 1000

SELECT branch > 1000

FROM assets

WHERE assets > 1000

SELECT *

FROM branch

WHERE assets > 1000;

SELECT assets > 1000

FROM branch

WHERE *;



The correct answer is: SELECT *
FROM branch

WHERE assets > 1000;

Question 5

Correct

Mark 1.00 out of 1.00

Flag question

Domain level constraint for Employee relation

Select one:

All of the above

'Salary' attribute can't be less than 5K and greater than 100K

'Emp_Id' attribute can't be null and 'Dept' attribute can have null values

'Name' attribute should be string



The correct answer is: All of the above

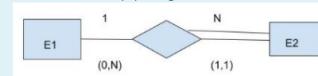
Question 6

Correct

Mark 1.00 out of 1.00

Flag question

Entities E1 and E2 are populating in a relation R as follows. What is correct with respect to these



Select one:

It is involving a weak entity in the relationship

The relationship between E2 and E1 is 1:N

The relationship between E1 and E2 is 1:N

The relationship between E1 and E2 is N:1



The correct answer is: The relationship between E1 and E2 is 1:N

Question 7

Correct

Mark 1.00 out of 1.00

Flag question

Entity level constraint for Dependent relation

DEPENDENT

ID_no	Name	Age	Eid
10	Jay	5	101
11	Raj	7	101
16	Tony	3	104
10	Jay	5	191
13	Praveen	9	231

Select one:

ID_no and Eid together form primary key

ID_no, Name, Age and Eid all combined together forms the primary key

ID_no alone forms the primary key

Eid alone forms the primary key



The correct answer is: ID_no and Eid together form primary key

Question 8

Correct

Mark 1.00 out of 1.00

Flag question

If an employee (Emp_ID 101) leaves the organization and the tuple for the employee (Emp_id 101) is deleted. What else must be done. (Select the most appropriate answer)

EMPLOYEE

Emp_Id	Name	Dept	Salary
101	Akhil	CS	10K
104	Purva	EEE	20K
...

191	Susma	Mech	40k
231	Sumit	Finance	30K

DEPARTMENT

ID_no	Name	Age	Eid
10	Jay	5	101
11	Raj	7	101
16	Tony	3	104
10	Jay	5	191
13	Praveen	9	231

Select one:

- All A,B,C are possible options. Final decision is taken by the administrator depending on the requirement
 - B. Set the value to a default value in referencing relation (Dependent) where Emp_ID 101 is referenced
 - A. (Cascade) delete the entry in referencing relation (Dependent) where Emp_ID 101 is referenced
 - C. Set the value to NULL in referencing relation (Dependent) where Emp_ID 101 is referenced

The correct answer is: All A,B,C are possible options. Final decision is taken by the administrator depending on the requirement.

Question 9

Correct

Mark 1.00 out of
1.00



Select one:

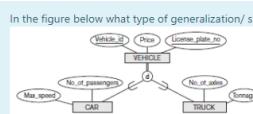
- Supplier(Sname) : Project(Proj_name, Sname)
 - Supplier(Sname); Project(Proj_name) ; Supplies(Sname, Proj_name)
 - Supplier(Sname) : Project(Proj_name)
 - Supplier(Sname, Proj_name) : Project(Proj_name)

The correct answer is: Supplier(Sname); Project(Proj_name) ; Supplies(Sname, Proj_name)

Question 10

Correct

Mark 1.00 out of
1.00



Select one:

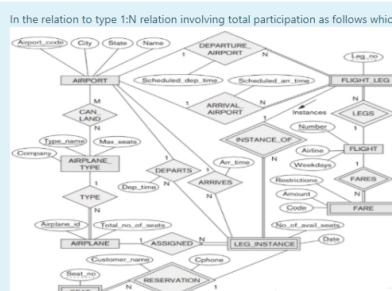
- Disjoint with total participation
 - Overlapping with total participation
 - Overlapping with parallel participation
 - Disjoint with parallel participation

The correct answer is: Disjoint with total participation

Question 11

Incorr

Mark 0.00 out of
1.00



Select one:

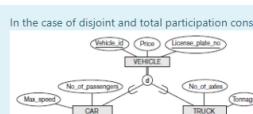
- AIRPLANE(Airplane_Id,Total_no_of_states) ; AIRPLANE_TYPE(Company,Type_Name,Max_seats)
 - AIRPLANE(Airplane_Id,Total_no_of_states,Type_Name) ; AIRPLANE_TYPE(Company,Type_Name,Max_seats,Airplane_Id)
 - AIRPLANE(Airplane_Id,Total_no_of_states) ; AIRPLANE_TYPE(Company,Type_Name,Max_seats,Airplane_Id)
 - AIRPI ANF(Airplane_Id,Total_no_of_state_Type_Name) ; AIRPI ANF_TYPE(Company,Type_Name,Max_seats)

The correct answer is: AIRPLANE(Airplane_Id Total_no_of_seats Type Name); AIRPLANE_TYPE(Company_Type Name Max_seats)

Question 12

Income

Incorrect



Select one:

- The generalized entity must be one of the specialized entities and must be only one of the specialized entities and not both
 - The generalized entity can be both of the specialized entity types and it is not necessary for the generalized entity to be part of specialized entity
 - The generalized entity can be both of the specialized entity types and must be either of specialized entity or both the specialized entity

The generalized entity can be only one of the specialized entities and not both but it is not necessary for the generalized entity to be part of the specialized entity

The correct answer is: The generalized entity must be one of the specialized entities and must be only one of the specialized entities and not both

Question 13

Correct

Mark 1.00 out of 1.00

Flag question

In the figure below, what is the degree of contains relationship type



Select one:

- 2
- 3
- 4
- 1



The correct answer is: 2

Question 14

Incorrect

Mark 0.00 out of 1.00

Flag question

Person entity has the attribute name which includes first name and last name. What type of attribute is it

Select one:

- Multivalued, derived, and simple
- Derived, simple, and single-valued
- Composite, stored, and single-valued
- Simple, stored, single-valued



The correct answer is: Composite, stored, and single-valued

Question 15

Incorrect

Mark 0.00 out of 1.00

Flag question

Referential Integrity constraint in following relational database instance refers to

EMPLOYEE

Emp_Id	Name	Dept	Salary
101	Akhil	CS	10K
104	Purva	EEE	20K
191	Susma	Mech	40k
231	Sumit	Finance	30K

DEPENDENT

ID_no	Name	Age	Eid
10	Jay	5	101
11	Raj	7	101
16	Tony	3	104
10	Jay	5	191
13	Praveen	9	231

Select one:

- A. Eid in Dependent relation is foreign key that refers to Emp_Id in Employee relation
- Both A and B
- None of A and B
- B. Emp_Id in Employee relation is foreign key that refers to Eid in Dependent relation



The correct answer is: A. Eid in Dependent relation is foreign key that refers to Emp_Id in Employee relation

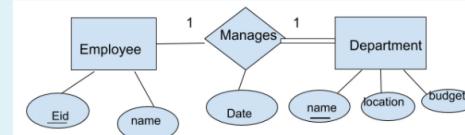
Question 16

Correct

Mark 1.00 out of 1.00

Flag question

The following ER diagram denotes



Select one:

- Department must be managed by at least one employee and at most any number of Employees
- Employee can manage at least one department and can manage any number of departments
- Every Department is managed by one employee and every department must be managed by one employee
- Employee is managing one department and exactly one department



The correct answer is: Every Department is managed by one employee and every department must be managed by one employee

Question 17

Correct

Mark 1.00 out of 1.00

Flag question

The key steps in database design are

- Requirement analysis followed by conceptual database design followed by refinement of schema followed by logical database design followed by physical database design
- Requirement analysis followed by logical database design followed by conceptual database design followed by refinement of schema and physical database design
- Requirement analysis followed by conceptual database design followed by logical database design followed by refinement of schema and physical database design
- Requirement analysis followed by refinement of schema followed by conceptual database design followed by logical database design followed by physical database design



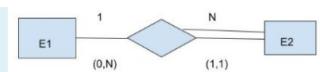
The correct answer is: Requirement analysis followed by conceptual database design followed by logical database design followed by refinement of schema and physical database design

Question 18

Correct

This is similar to

Score:
Mark 1.00 out of 1.00
Flag question



Select one:

- a.
- b.
- c.
- d.

The correct answer is:

Question 19
Correct
Mark 1.00 out of 1.00
Flag question

We have a 'date of birth' and 'age' as attributes of any entity person. Which of the following is generally true with respect to these attributes.

Select one:

- Date of birth is a stored attribute and age is also a stored attribute. Both of them are single-valued and simple attributes
- Date of birth is a stored attribute and age is a derived attribute. Both of them are single-valued and simple attributes
- Date of birth is a derived attribute and age is a stored attribute. Both of them are single-valued and simple attributes
- Date of birth is a derived attribute and age is also a derived attribute. Both of them are single-valued and simple attributes

The correct answer is: Date of birth is a stored attribute and age is a derived attribute. Both of them are single-valued and simple attributes

Question 20
Correct
Mark 1.00 out of 1.00
Flag question

What is the difference between 'Relation', 'Relation instance' and 'Relation schema' in relational database model

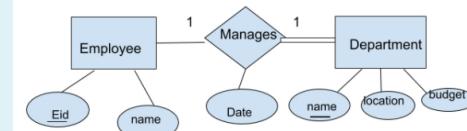
Select one:

- Relation instance corresponds to a physical or logical object and is synonymous to a variable in programming language. Relation refers to defining attributes of a relation (optionally along with domain) and Relation schema refers to the snapshot of populated relation.
- Relation schema corresponds to a physical or logical object and is synonymous to a variable in programming language. Relation refers to defining attributes of a relation (optionally along with domain) and Relation instance refers to the snapshot of populated relation.
- Relation corresponds to a physical or logical object and is synonymous to a variable in programming language. Relation schema refers to defining attributes of a relation (optionally along with domain) and Relation instance refers to the snapshot of populated relation.
- Relation instance corresponds to a physical or logical object and is synonymous to a variable in programming language. Relation schema refers to defining attributes of a relation (optionally along with domain) and Relational refers to the snapshot of populated relation.

The correct answer is: Relation corresponds to a physical or logical object and is synonymous to a variable in programming language. Relation schema refers to defining attributes of a relation (optionally along with domain) and Relation instance refers to the snapshot of populated relation.

Question 21
Correct
Mark 1.00 out of 1.00
Flag question

Which is the correct and the best conversion of the following ER diagram completely to the relational model



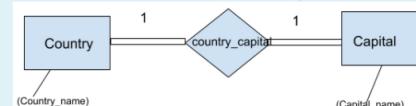
Select one:

- Employee(eid , name) ; Department(dname , location.budget.date)
- Employee(eid , name) ; Department(dname , location.budget.date.eid)
- Employee(eid , name.date.dname) ; Department(dname , location.budget)
- Employee(eid , name.date) ; Department(dname , location.budget)

The correct answer is: Employee(eid , name) ; Department(dname , location.budget.date.eid)

Question 22
Incorrect
Mark 0.00 out of 1.00
Flag question

Which is the correct and the best conversion of the ER diagram below to the relational model



Select one:

- Country(Country_name,no_of_states) ; Capital(Capital_name,coordinator,Country_name)
- Country,Capital(Country_name,no_of_states,Capital_name,coordinator)
- Country(Country_name,no_of_states,Capital_name) ; Capital(Capital_name,coordinator)
- Country(Country_name,no_of_states) ; Capital(Capital_name,coordinator)

The correct answer is: Country,Capital(Country_name,no_of_states,Capital_name,coordinator)

Question 23
Correct
Mark 1.00 out of 1.00
Flag question

Which of the following is not the correct Relational Algebra operator

- Select one:
- Set difference
 - Cartesian Product
 - Natural join
 - View

The correct answer is: View

Question 24
Correct
Mark 1.00 out of 1.00
[Flag question](#)

The relationship between an entity set A to the entity set B is many-to-one relationship. A and B both have total participation in the relationship and the cardinality of A is greater than the cardinality of B. What can be said about the relationship?

- Every entity in B is associated with exactly one entity in A.
- Every entity in B is associated with at most one entity in A.
- Every entity in A is associated with exactly one entity in B.
- None of these
- Some entity in A is associated with more than one entity in B.

Your answer is correct.

The correct answer is:

Every entity in A is associated with exactly one entity in B.

Question 25
Incorrect
Mark 0.00 out of 1.00
[Flag question](#)

Entity types A and B are having a relationship R between them. The relationship does not have any attribute of its own. What according to you (amongst the options) would be the best suitable situation for the relationship R to be merged with A while reducing to the relational model?

- Relation R is many-to-one from A to B and the participation of A in R is partial.
- Relation R is many-to-one from A to B and the participation of A in R is total.
- Relation R is one-to-many from A to B and the participation of A in R is total.
- None of these
- Relation R is one-to-many from A to B and the participation of A in R is partial.

Your answer is incorrect.

The correct answer is:

Relation R is many-to-one from A to B and the participation of A in R is total.

Question 26
Correct
Mark 1.00 out of 1.00
[Flag question](#)

Which of the following is (maximally) incorrect? An entity refers to ER model and a relational table refers to the relational model.

- In a row of a relational table, an attribute can have more than one value
- An attribute of an entity can have more than one value
- An attribute of an entity can be composite
- In a row of a relational table, an attribute can have exactly one value or a NULL value
- None of these

Your answer is correct.

The correct answer is:

In a row of a relational table, an attribute can have more than one value

Question 27
Correct
Mark 1.00 out of 1.00
[Flag question](#)

What is the maximum functional dependency for a table/relation having two single-valued attributes?

- BCNF
- None of these
- 1 NF
- 3 NF
- 2 NF

Your answer is correct.

The correct answer is:

BCNF

Question 28
Correct
Mark 1.00 out of 1.00
[Flag question](#)

Consider the following relations P(X,Y,Z), Q(X,Y,T) and R(Y,V).

P		
X	Y	Z
X1	Y1	Z1
X1	Y1	Z2
X2	Y2	Z2
X2	Y4	Z4

Q		
X	Y	T
X2	Y1	2
X1	Y2	5
X1	Y1	6
X3	Y3	1

R	
Y	V
Y1	V1
Y3	V2
Y2	V3
Y2	V2

How many tuples will be returned by the following relational algebra query?

$$\prod_X (\sigma_{(P.Y=R.Y \wedge R.V=V2)}(P \times R)) - \prod_X (\sigma_{(Q.Y=R.Y \wedge Q.T>2)}(Q \times R))$$

- 4
- 3
- 2
- None of these
- 1

Your answer is correct.

The correct answer is:

1

Question 29
Correct
Mark 1.00 out of 1.00
[Flag question](#)

A relation R (A, B, C, D, E) is having a primary key as A D. Which of the following is NOT the super key?

- A B C E
- A B C D

ANSWER

- A B D E C
- A B E D
- None of these

Your answer is correct.

The correct answer is:
A B C E

Question 30

Correct

Mark 1.00 out of
1.00

Flag question

With respect to normalization which of the following is correct?

- Every relation in BCNF is also in 3NF
- Every relation in 3NF is also in BCNF
- No relation can be in both BCNF and 3NF
- None of These
- A relation R is in 3NF if every non-prime attribute of R is fully functionally dependent on every key of R

Your answer is correct.

The correct answer is:
Every relation in BCNF is also in 3NF

Finish review

[→ Outline Solution and Marking Scheme to Question-5 of the Mid-Semester Test \(Regular\)](#)

Jump to...

Quiz 2 

