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Ahmedabad University

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Grade	**18.00** out of 25.00 (**72%**)

Question **1**
Correct
Mark 1.00 out of 1.00

Which one of the following is used to represent the multi valued attribute in an entity-relationship diagram?

Select one:
- ○ a. Rectangle with double border
- ◉ b. Oval with double border ✔
- ○ c. Diamond with double border
- ○ d. Oval that contain underlined attribute.

Question **2**

Correct

Mark 1.00 out of 1.00

"Gender" is which type of attribute from the following?

Select one or more:

☐ a. Composite

☐ b. Derived

☑ c. Simple ✔

☐ d. Multi-valed

☑ e. Single-valued ✔

Question **3**

Incorrect

Mark 0.00 out of 2.00

Consider the following two tables BATSMAN and RATING.

Table: BATSMAN

Batsman_ID	Name	Country
1	D. J. Malan	ENG
2	V. Kohli	IND
3	A. J. Finch	AUS
4	Babar Azam	PAK
5	C Munro	NZ

Table : RATING

Batsman_ID	Rating_In	Ratings
1	Twenty20	915
2	Twenty20	697
3	Twenty20	808
4	Twenty20	801
5	Twenty20	695
1	ODI	290
2	ODI	870
3	ODI	791
4	ODI	837
5	ODI	476

The primary key of the BATSMAN table is Batsman_ID and RATING table is (Batsman_ID, Rating_In). When the following query

is executed, the number of rows returned by the query is   6   ✗ .

Select b.name, avg (r.ratings)

from batsman b, rating r

where b.batsman_id=r.batsman_id and r.ratings > 700

group by b.name;

Note: Type only number in the textbox. (For ex., 5)

Question **4**

Correct

Mark 1.00 out of 1.00

Refer the following relation ENROLMENT.

For (student_name, student_age) to be the primary key, the value Z in student_age column should not be equal to [21] .

Enrolmentno	Student_name	Student_email	Student_age	CGPA
54534	Chirag	chirag@gmail.com	Z	3.15
65352	Hiral	hiral@gmail.com	21	3.98
41425	Chirag	chirag1@gmail.com	21	3.87
57535	Hiral	hiral1@gmail.com	22	3.12
61253	Achal	achal@gmail.com	21	3.56

Question 5

Correct

Mark 2.00 out of 2.00

Consider relations CRICKETER (cricketer_id, name, country) and BATSMAN (batsman_id, rank, rating_in_test). cricketer_id is a primary key in CRICKETER and batsman_id is a primary key in BATSMAN. Batsman_id is referred from the cricketer_id.

The relation CRICKETER contains 500 tuples and the relation BATSMAN contains 300 tuples. What is the maximum number of tuples possible in the natural join of cricketer and batsman? (Note: When you type answer, enter only number. For ex., 200)

Answer: ✔

Question **6**

Correct

Mark 1.00 out of 1.00

Refer the data given in the following table CUSTOMER.

customer_id	customer_name	customer_email	Aadharid
1	Akshay Kakkar	ak@gmail.com	34234534366667331
2	Rekha Somishetty	rs@hotmail.com	12135662464443456
3	Niraj Sharma	ns1@yahoo.com	52357624645555692
4	Rahul Pandey	Rahul@yahoo.com	89744534475218001
5	Shweta Sharma		28456992271145645
6	Niraj Sharma	ns@gmail.com	99456992271145645

From the following, which are the non-redundant candidate keys of the table?

Select one or more:

☐ a. customer_email

☐ b. customer_name,customerr_email

☑ c. customer_id ✔

☐ d. customer_name

☑ e. Aadharid ✔

Question 7

Correct

Mark 1.00 out of 1.00

Let SUPPLIER (**supplier_no**, s_status) and POSITION (**position_id**, city) are two relations. s_status is a foreign key that refers to position_id. If data in SUPPLIER and POSITION satisfy referential integrity constraint, which of the following is always true?

Select one:

a.

$$\prod{}_{\text{s\_status}} (\text{supplier}) = \prod{}_{\text{position\_id}} (\text{position})$$

b. $\prod{}_{\text{position\_id}} (\text{position}) - \prod{}_{\text{s\_status}} (\text{supplier}) = \varnothing$

c.

$$\prod{}_{\text{s\_status}} (\text{supplier}) - \prod{}_{\text{position\_id}} (\text{position}) = \varnothing \checkmark$$

d. $\prod{}_{\text{s\_status}} (\text{supplier}) - \prod{}_{\text{position\_id}} (\text{position}) \neq \varnothing$

Question **8**

Incorrect

Mark 0.00 out of 1.00

The maximum number of super keys for the relation EMPLOYEE (empno, deptno, empname, contact_no) with (emno, deptno) as the primary key is ____

Select one:

○ a. 7

◉ b. 5 ✗

○ c. 8

○ d. 6

○ e. 4

Question 9

Correct

Mark 1.00 out of 1.00

Consider the following schema:

Branch = (Branch_name, Assets, Branch_city)

Customer = (Customer_name, Bank_name, Customer_city)

Borrow = (Branch_name, loan_number, customer_account_number)

Deposit = (Branch_name, Account_number, Customer_name, Balance)

Using relational Algebra, the query that finds customers who have balance more than 10000 is _____ .

Select one:

- a. $\pi_{customer-name}\ (\sigma_{balance>10000}(Deposit))$ ✔
- b. $\sigma_{customer-name}\ (\pi_{balance\ >\ 10000}(Borrow))$
- c. $\sigma_{customer-name}\ (\sigma_{balance\ >\ 10000}(Deposit))$
- d. $\pi_{customer-name}\ (\sigma_{balance\ >\ 10000}(Borrow))$

Question **10**

Partially correct

Mark 3.00 out of 4.00

Which of the following statement(s) is/are TRUE?

Select one or more:

☑ a. WHERE clause can not be used to specify conditions on aggregate functions. ✔

☑ b. An SQL query can contain WHERE clause even if it does not have a GROUP BY clause. ✔

☐ c. Not all attributes used in the GROUP BY clause need to appear in the SELECT clause.

☑ d. HAVING clause can not be used to specify conditions on aggregate functions. ✖

☐ e. An SQL query can contain a HAVING clause even if it does not have a GROUP BY clause.

☑ f. An SQL query can contain a HAVING clause only if it has a GROUP BY clause. ✔

Question 11

Correct

Mark 2.00 out of 2.00

Refer the relation R given below.

Table : R

Batsman_ID	Rating_In	Ratings
1	Twenty20	915
2	Twenty20	697
3	Twenty20	808
4	Twenty20	801
5	Twenty20	695
1	ODI	290
2	ODI	870
3	ODI	791
4	ODI	837
5	ODI	476

When the following query is executed, what will be the output?

Select batsman_id from r where ratings=(select min(ratings) from r where ratings>(select min(ratings) from r)));
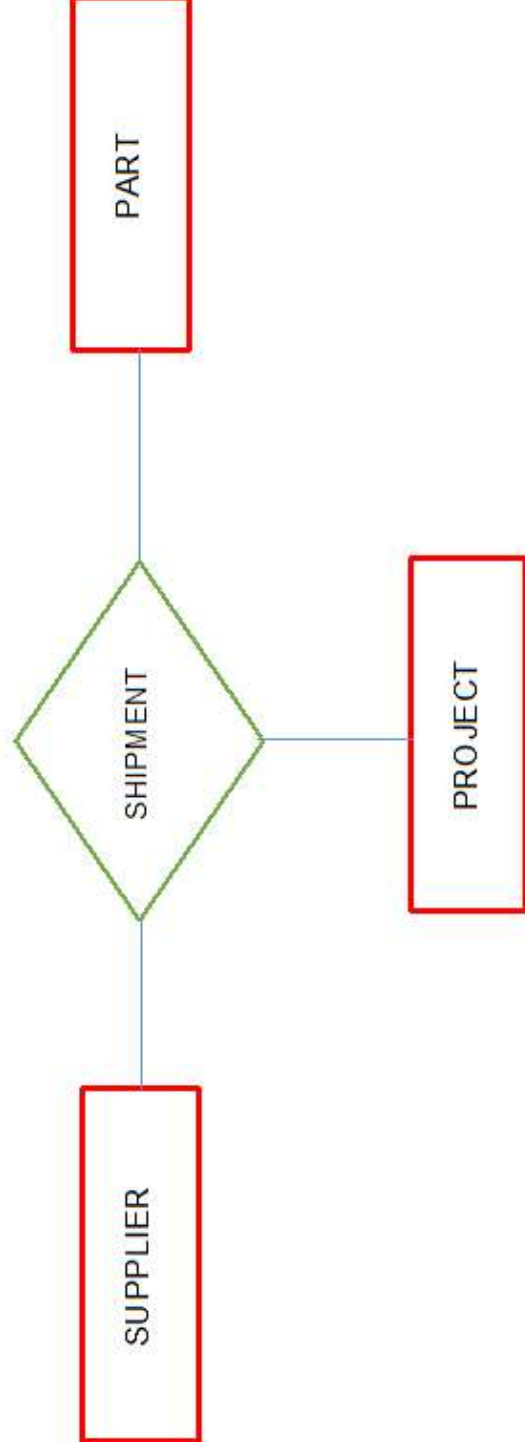
Select one:

○ a. 1

○ b. 3

○ c. 2

d. 5 ✔

e. 4

Question 12

Correct

Mark 1.00 out of 1.00

Following is an example of _____ relationship.

Select one:

○ a. Unary

◉ b. Ternary ✔

○ c. Binary

○ d. Fourary

Question **13**

Correct

Mark 2.00 out of 2.00

Which of the following statement(s) is/are FALSE?

Select one or more:

▸ a. Any relation which has three attributes having all the three part of a primary key is in 2NF and 3NF. ✖

☐ b. Any relation with two attributes (out of these two, one attribute is a primary key) is in 2NF.

☐ c. Any relation with two attributes (out of these two, one attribute is a primary key) is in 3NF.

▸ d. Any relation with three attributes (one attribute is a Primary Key and other two are non-key attributes) is always in 3NF. ✔

☐ e. A relation in which primary key has only one attribute is in 2NF.

Question **14**

Incorrect

Mark 0.00 out of 3.00

A table PUBLICATIONS contains the following fields.

(Publication_type, Publication_name, Issue_no, ISBN_NO, ISSN_No, Start_page, End_page, Publisher_name, Total_pages)

The primary key is (Publication_type, Issue_no, Publication_name).

Following are the dependencies in the table. Given all the fields are simple and single-valued attributes.

(Publication_type, Issue_no, Publication_name) → Publisher_name

(Publication_type) → ISBN_No

(Publication_type) → ISSN_No

(Start_page, End_page) → Total_pages

(Publication_type, Issue_no, Publication_name) → Start_page

(Publication_type, Issue_no, Publication_name) → End_page (Publication_type, Issue_no, Publication_name) → Total_pages

The PUBLICATIONS table is decomposed as following two tables P1 and P2.

P1 (Publication_type, Publication_name, Issue_no, Start_page, End_page, Publisher_name, Total_pages)

P2 (Publication_type, ISBN_No, ISSN_No)

Which is/are the normal form(s) that the new tables P1 and P2 are in, but the PUBLICATIONS table does not?

Select one or more:

- a. 1NF
- b. None
- c. 3NF ✖
- d. 2NF

Question 15

Correct

Mark 2.00 out of 2.00

SUPPLIER and SHIPMENT are database tables which contain the following fields.

SUPPLIER (sno, sname, status)

SHIPMENT (sno, pno, qty, city)

Consider the following four queries written on the above tables.

Query 1: select supplier.sname, shipment.city from supplier inner join shipment on supplier.sno=shipment.sno;

Query 2: select supplier.sname, shipment.city from supplier left join shipment on supplier.sno=shipment.sno;

Query 3: select supplier.sname, shipment.city from supplier right join shipment on supplier.sno=shipment.sno;

Query 4: select supplier.sname, shipment.city from supplier full join shipment on supplier.sno=shipment.sno;

From the above queries, which query's output is a superset of the outputs of the other three queries?

Select one:
- a. Query 2
- b. Query 1
- c. Query 3
- d. Query 4 ✔

PREVIOUS ACTIVITY
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