DBMS

Section Id :	64065330331
Section Number :	5
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	17
Number of Questions to be attempted :	17
Section Marks :	50
Display Number Panel :	Yes
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	64065367667
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 68 Question Id : 640653469993 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DIPLOMA LEVEL : DATABASE MANAGEMENT SYSTEMS"

ARE YOU SURE YOU HAVE TO WRITE EXAM FOR THIS SUBJECT?

CROSS CHECK YOUR HALL TICKET TO CONFIRM THE SUBJECTS TO BE WRITTEN.

(IF IT IS NOT THE CORRECT SUBJECT, PLS CHECK THE SECTION AT THE TOP FOR THE SUBJECTS REGISTERED BY YOU)

Options :

6406531561849. ✔ YES

6406531561850. ✖ NO

Sub-Section Number :	2
Sub-Section Id :	64065367668
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 69 Question Id : 640653469994 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the table **instructor** shown in Table 1.

id	name	salary
6001	Oliver	45000
6002	Jack	30000
6003	Oliver	45000
6004	Jack	30000
6005	Jacob	70000
6006	Tommy	60000
6007	Joseph	65000
6008	Jacob	70000

Table 1: **instructor**

What will be the output of the following query ?

```
SELECT name
FROM instructor AS a
WHERE( SELECT COUNT(*)
       FROM instructor b
       WHERE b.salary>a.salary)>2

EXCEPT ALL

SELECT DISTINCT(name)
FROM instructor
```

Options :

6406531561851. ✖

name
Tommy
Joseph

6406531561852. ✔

name
Oliver
Jack

6406531561853. ✖

name
Jacob

6406531561854. ✖

name
Tommy

Question Number : 70 Question Id : 640653469996 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the table **instructor** given below.

id	name	dept_name	salary
10101	Srinivasan	Comp. Sci.	65000
12121	Wu	Finance	90000
15151	Mozart	Music	40000
22222	Einstein	Physics	95000
32343	El Said	History	60000
33456	Gold	Physics	87000
45565	Katz	Comp. Sci.	75000
58583	Califieri	History	62000
76543	Singh	Finance	80000
76766	Crick	Biology	72000
83821	Brandt	Comp. Sci.	92000
98345	Kim	Elec. Eng.	80000

Table 2: **instructor**

What will be the output of the following query?

```
with dept_total (dept_name, value) as
    (select dept_name, sum(salary)
     from instructor
     group by dept_name),
dept_total_avg(value) as
    (select avg(value)
     from dept_total)
select dept_name
from dept_total, dept_total_avg
where dept_total.value > dept_total_avg.value
```

Options :

dept_name
Physics
Comp. Sci.

6406531561859. ✖

6406531561860. ✖

dept_name
Finance
Physics

6406531561861. ✖

dept_name
Finance
Comp. Sci.

6406531561862. ✔

dept_name
Finance
Physics
Comp. Sci.

Sub-Section Number : 3

Sub-Section Id : 64065367669

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 71 Question Id : 640653469995 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2

Question Label : Multiple Choice Question

Consider the relational schema **player**(*player_id*, *name*, *jersey_no*, *dob*, *team_id*).

Identify the correct SQL command to create a view **player_name**, by selecting two columns *name* and *team_id* from the **player** relation. Select those players having names starting with 'K' and jersey number as 10.

Options :

6406531561855. ✖

```
CREATE VIEW player_name(name,team_id) TO
SELECT name,team_id from player
Where name like 'K%' AND jersey_no=10
```

6406531561856. ✖

```
CREATE VIEW player_name(name,team_id) ON
SELECT name,team_id from player
Where name like 'K%' AND jersey_no=10
```

6406531561857. ✖
```
CREATE VIEW player_name(name,team_id) AS
SELECT name,team_id from player
Where name like '%K' AND jersey_no=10
```

6406531561858. ✔
```
CREATE VIEW player_name(name,team_id) AS
SELECT name,team_id from player
Where name like 'K%' AND jersey_no=10
```

Question Number : 72 Question Id : 640653469998 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2

Question Label : Multiple Choice Question

The ability to modify the physical schema without changing the logical schema is known as _____

Options :

6406531561864. ✖ Logical Data Independence

6406531561865. ✔ Physical Data Independence

6406531561866. ✖ View Data Independence

6406531561867. ✖ None of these

Question Number : 73 Question Id : 640653470000 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2

Question Label : Multiple Choice Question

Which of the following languages defines and manipulates the schema of a database?

Options :

6406531561869. ✖ Data Manipulation Language

6406531561870. ✖ Data Control Language

6406531561871. ✖ Transaction Control Language

6406531561872. ✔ Data Definition Language

Question Number : 74 Question Id : 640653470008 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2

Question Label : Multiple Choice Question

Which among the following options indicates the responsibility of a query processor?

Options :

6406531561895. ✖ To ensure that the database remains in a consistent state despite all the failures.

6406531561896. ✔ To estimate the cost of query operations.

6406531561897. ✖ To control the interaction among the concurrent transactions.

6406531561898. ✖ To interact with the operating system file manager.

Question Number : 75 Question Id : 640653470009 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2

Question Label : Multiple Choice Question

Which among the following forms of authorization is used for the creation of new relations in a database schema?

Options :

6406531561899. ✖ Read

6406531561900. ✖ Alteration

6406531561901. ✖ Index

6406531561902. ✔ Resources

Question Number : 76 Question Id : 640653470010 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2

Question Label : Multiple Choice Question

Which among the following relational algebraic expressions is equivalent to the SQL statement given below?

```
SELECT name FROM product WHERE rating < 10
EXCEPT
SELECT name FROM product WHERE rating < 7
```

Options :

6406531561903. ✖ $\prod_{name}(\sigma_{rating<10 \vee rating<7}(\text{product}))$

6406531561904. ✖ $\prod_{name}(\sigma_{rating<10 \wedge rating<7}(\text{product}))$

6406531561905. ✔ $\prod_{name}(\sigma_{rating<10 \wedge rating\geq 7}(\text{product}))$

6406531561906. ✖ $\prod_{name}(\sigma_{rating>7 \vee rating\leq 10}(\text{product}))$

Sub-Section Number :	4
Sub-Section Id :	64065367670
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 77 Question Id : 640653469997 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Short Answer Question

Consider the table **player** and predict the output of the query that follows.

player_id	name	jersey_no
P001	Rudra	10
P002	Advik	20
P003	Raghab	30
P004	Krishna	40
P005	Rudra	80

Table 3: **player**

```
SELECT COUNT(name)
FROM (( SELECT player_id, name
        FROM player) as P
        NATURAL JOIN ( SELECT name, jersey_no
                       FROM player) as J)
```

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

7

Question Number : 78 Question Id : 640653469999 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Short Answer Question

Consider an entity relationship in which entity sets **student** and **course** have a many- to-many relationship. The attributes of **student** entity are *id*, *name*, *dept_name*, and *mobile_no* where *id* is the primary key attribute and *mobile_no* is the multivalued attribute · The attributes of **course** entity are *c_id*, *name*, *dept_name* and *credits* where *c_id* is the primary key attribute.

What is the minimum number of tables needed to represent the above entity relationship?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

4

Question Number : 79 Question Id : 640653470003 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Short Answer Question

Let ABC (a,b,c) and BQR (b,q,r) be two relations with instances shown below:

a	b	c
2	3	5
4	3	1
2	4	1
1	1	2
5	2	5

Table 1: ***ABC***

b	q	r
1	4	2
2	3	4
5	1	2
2	7	1

Table 1: ***BQR***

What will be the number of tuples fetched by the given relational algebra operation?

$\Pi_{q,r}(\sigma_{c>a}(ABC \bowtie BQR))$

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Sub-Section Number :	5
Sub-Section Id :	64065367671
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 80 Question Id : 640653470001 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

Consider the SQL query shown below.

```
create table person (
        ID char(10) primary key,
        name char(40) NOT NULL,
        father char(10),
        foreign key father references person(ID)
        );
```

With respect to the above query, which constraint does the table **person** violate?

ID	name	father
P001	Rudra	NULL
P002	Advik	P001
P003	Raghab	P006
P004	Krishna	P002
P005	Rudra	P004

Table 4: **person**

Options :

6406531561873. ✖ NOT NULL

6406531561874. ✖ PRIMARY KEY

6406531561875. ✔ FOREIGN KEY

6406531561876. ✖ None of these

Question Number : 81 Question Id : 640653470002 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

Consider the following entity set given in Figure 1:

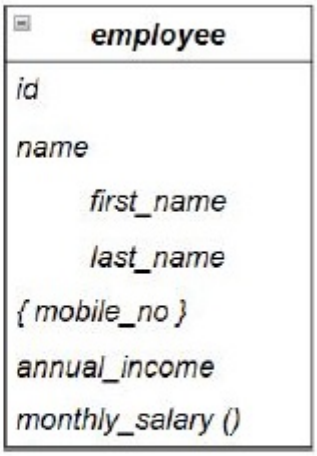

Figure 1: **employee**

Which among the following options is/are correct?

Options :

6406531561877. ✖
id: simple attribute
first_name: composite attribute
last_name: composite attribute
mobile_no: multivalued attribute
annual_income: derived attribute

6406531561878. ✔
id: simple attribute
name: composite attribute
mobile_no: multivalued attribute
monthly_salary: derived attribute

6406531561879. ✖
id: simple attribute
name: multivalued attribute
mobile_no: composite attribute
annual_income: derived attribute

6406531561880. ✖
id: simple attribute
name: multivalued attribute
first_name: composite attribute
last_name: composite attribute
mobile_no: multivalued attribute
monthly_salary: composite attribute

Question Number : 82 Question Id : 640653470004 Question Type : MCQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

Consider the table **hotel_db** given in Figure 2.

name	no_of_rooms	address	no_of_vacant_rooms
The Paradise	50	Delhi	10
Beach View	20	Chennai	7
Spring Valley	25	Bhopal	15
Hillsight	25	Shillong	20
Dream Desert	35	Jaipur	5
The View	40	Pondicherry	15
Five Seasons	70	Delhi	25

Figure 2: **hotel_db**

Which among the given SQL queries will return the name and number of vacant rooms available in the hotels located in either 'Delhi' or 'Chennai', where the total number of rooms is less than the maximum number of rooms among all the hotels?

Options :

6406531561882. ✖

```
SELECT name, no_of_vacant_rooms
FROM hotel
WHERE address IN ('Delhi'), ('Chennai')
AND no_of_rooms < (SELECT MAX(no_of_rooms) FROM hotel)
```

6406531561883. ✖

```
SELECT name, no_of_vacant_rooms
FROM hotel
WHERE address = 'Delhi' AND 'Chennai'
AND no_of_rooms > MAX(no_of_rooms)
```

6406531561884. ✔

```
SELECT name, no_of_vacant_rooms
FROM hotel
WHERE address IN ('Delhi', 'Chennai')
AND no_of_rooms < (SELECT MAX(no_of_rooms) FROM hotel)
```

6406531561885. ✖

```
SELECT name, no_of_vacant_rooms
FROM hotel
WHERE address = 'Delhi' OR address 'Chennai'
AND no_of_rooms < MAX(no_of_rooms)
```

Sub-Section Number : 6

Sub-Section Id : 64065367672

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 83 Question Id : 640653470011 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3 Selectable Option : 0

Question Label : Multiple Select Question

Consider the three relations given in Figure 3.

r1

A	B
a1	b1
a2	b2
a3	b3
a4	b4
a5	b5

r2

A	B
a1	b1
a4	b4
a5	b5

r3

A	B
a2	b2
a4	b4
a5	b5

Figure 3: Relations **r1**, **r2** and **r3**

Choose the relational algebra expression that results in the relation given in Figure 4.

A	B
a4	a4
a5	a5

Figure 4: Resulting relation

Options :

6406531561907. ✔ $r1 \cap r2 \cap r3$

6406531561908. ✖ $r1 - (r1 - r2) - (r3 - r2)$

6406531561909. ✖ $r1 \times r2 \times r3$

6406531561910. ✔ $r1 \bowtie r2 \bowtie r3$

Sub-Section Number :	7
Sub-Section Id :	64065367673
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Id : 640653470005 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (84 to 85)

Question Label : Comprehension

Consider the following relations and answer the given subquestions

$\textbf{employee}(\underline{emp\_id},\ emp\_name,\ dob,\ dept\_id,\ desg\_id)$
$\textbf{department}(\underline{dept\_id},\ dept\_name)$
$\textbf{designation}(\underline{desg\_id},\ desg\_name,\ salary)$

Sub questions

Question Number : 84 Question Id : 640653470006 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Selectable Option : 0

Question Label : Multiple Select Question

Choose the correct TRC or DRC expression, which returns the name and dob of those employees who belongs to the 'Finance' department and has a salary more than 50000.

Options :

6406531561886. ✖

$\{s \mid \exists e \in employee\ \exists d \in department\ \exists de \in designation(d.dept\_name = \text{'}Finance\text{'} \wedge de.salary > 50000 \wedge e.dept\_id = d.dept\_id \wedge e.desg\_id = de.desg\_id)\}$

6406531561887. ✔ $\{s \mid \exists e \in employee\ \exists d \in department\ \exists de \in designation(s.emp\_name = e.emp\_name \wedge s.dob = e.dob \wedge d.dept\_name = \text{'}Finance\text{'} \wedge de.salary > 50000 \wedge e.dept\_id = d.dept\_id \wedge e.desg\_id = de.desg\_id)\}$

6406531561888. ✖ $\{s \mid \exists e \in employee\ \exists d \in department\ \exists de \in designation(e.emp\_name = s.emp\_name \wedge e.dob = s.dob \wedge d.dept\_name = \text{'}Finance\text{'} \vee de.salary > 50000)\}$

6406531561889. ✖ $\{< b, c > \mid \exists a, b, c, d, e(< a, b, c, d, e > \in employee) \wedge \exists x, y(< x, y > \in department \wedge y = \text{'}Finance\text{'}) \wedge \exists p, q, r(< p, q, r > \in designation \wedge r > 50000)\}$

6406531561890. ✔ $\{< b, c > \mid \exists a, b, c, d, e((< a, b, c, d, e > \in employee) \wedge \exists x, y(< x, y > \in department \wedge y = \text{'}Finance\text{'}) \wedge \exists p, q, r(< p, q, r > \in designation \wedge r > 50000 \wedge e = p \wedge d = x))\}$

Question Number : 85 Question Id : 640653470007 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2

Question Label : Multiple Choice Question

Consider the DRC expression given below:

$\{< p, q > \mid \exists p, q, r(< p, q, r > \in designation \wedge r < 80000\ )\}$

Among the following options, choose the correct statement equivalent to the given DRC expression.

Options :

6406531561891. ✖ ID and name of the designation with salary more than 80000.

6406531561892. ✖ ID of the designation with salary less than 80000.

6406531561893. ✔ ID and name of the designation with salary less than 80000.

6406531561894. ✖ Name of the designation with salary more than 80000.

PDSA

Section Id :	64065330332
Section Number :	6
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	17
Number of Questions to be attempted :	17
Section Marks :	50
Display Number Panel :	Yes
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	64065367674
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 86 Question Id : 640653470012 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DIPLOMA LEVEL : PROGRAMMING, DATA STRUCTURES AND ALGORITHMS USING PYTHON"

ARE YOU SURE YOU HAVE TO WRITE EXAM FOR THIS SUBJECT?