

Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	756
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No
Revisit allowed for group Instructions? :	Yes
Maximum Instruction Time :	0
Minimum Instruction Time :	0
Group Time In :	Minutes
Revisit Section :	Yes
Action on Revisit Section :	View and Edit
Navigate To Group Summary From Last Question? :	No
Disable Submit Button During Assessment? :	No
Section Selection Time? :	0
No of Optional sections to be attempted :	0

DBMS

Section Id :	64065359208
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	12
Number of Questions to be attempted :	12
Section Marks :	50
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	No
Section Maximum Duration :	0
Section Minimum Duration :	0
Section Time In :	Minutes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653122703
Question Shuffling Allowed :	No

Question Number : 1 Question Id : 640653824984 Question Type : MCQ

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DIPLOMA LEVEL : DATABASE MANAGEMENT SYSTEMS (COMPUTER BASED EXAM)"

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 :

6406532774613. ✓ YES

6406532774614. ✗ NO

Sub-Section Number : 2
Sub-Section Id : 640653122704
Question Shuffling Allowed : No

Question Id : 640653824985 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix
Question Numbers : (2 to 3)

Question Label : Comprehension

Consider the table **Champions_League** for given subquestions

Name	Age	Team	Country	Goals
De jong	26	Barcelona	Netherlands	20
Bellingham	20	Real Madrid	England	18
Haaland	23	Manchester City	Norway	18
Araujo	25	Barcelona	Uruguay	20
Martinelli	22	Arsenal	Brazil	16
Mbappe	25	PSG	France	16
Kroos	34	Real Madrid	Germany	18
Dembele	26	PSG	France	14
Saka	22	Arsenal	England	16
Cubarsi	17	Barcelona	Spain	12

Table 1: Figure 1: Champions_League

Sub questions

Question Number : 2 Question Id : 640653824986 Question Type : MCQ
Correct Marks : 3
Question Label : Multiple Choice Question

Choose the correct SQL statement that will return the resultant table given in Figure 2.

Goals	Team	Count
20	Barcelona	2
18	Real Madrid	2
18	Manchester City	1
16	Arsenal	2
16	PSG	1
14	PSG	1
12	Barcelona	1

Table 2: Figure 2: Result

Options :

6406532774615. ✓ `SELECT Goals, Team, COUNT(*)
FROM Champions_League GROUP
BY Goals, Team;`

6406532774616. ✗ `SELECT Goals, Team, COUNT(*)
FROM Champions_League WHERE
Age > 25 ORDER BY Goals;`

6406532774617. ✗ `SELECT Goals, Team, COUNT(*)
FROM Champions_League GROUP
BY Team;`

6406532774618. ✗ `SELECT Goals, Team, COUNT(*)
FROM Champions_League ORDER
BY Team;`

Question Number : 3 Question Id : 640653824987 Question Type : SA

Correct Marks : 4

Question Label : Short Answer Question

How many rows will the following query return?

```
select team  
from Champions_League  
where country like '%y' and goals>17 or name like '%e'
```

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

4

Sub-Section Number : 3

Sub-Section Id : 640653122705

Question Shuffling Allowed : Yes

Question Number : 4 Question Id : 640653824988 Question Type : MCQ

Correct Marks : 3

Question Label : Multiple Choice Question

Consider the following SQL statement:

```
Create table Cars(  
  CarID varchar(8),  
  CarName varchar(20),  
  CarColour varchar(8),  
  YearOfPurchase integer,  
  Weight integer,  
  primary key (CarID),  
  check(YearOfPurchase in (1990, 2000, 2005, 2010)));
```

Which among the following will cause an integrity constraint violation in the Cars table?

Note: Insertions are done in the order of the options given.

Options :

6406532774620. ✓ INSERT INTO Cars('C1', 'Ferrari', 'Red', 2003, 500);

6406532774621. ✗ INSERT INTO Cars('C2', 'McLaren', 'Orange', 2005, 700);

6406532774622. ✗ INSERT INTO Cars('C1', 'Mercedes', 'Black', 1990, 600);

6406532774623. ✗ INSERT INTO Cars('C4', 'Alpine', 'White', 1990, 800);

Question Number : 5 Question Id : 640653825001 Question Type : MCQ

Correct Marks : 3

Question Label : Multiple Choice Question

Consider the following relational schema:

Passenger(P_id, P_name, B_id)

Pilot(Pilot_id, Pilot_name, Flight_No)

Bookings(Booking_id, Boarding, Destination, Flight_no, P_id, Pilot_id)

Choose the suitable query that will find the names of all passengers who flew from Mumbai with pilot named Raj in flight number 3005.

Options :

6406532774661. ✓ $\Pi_{P_name}(Passenger \bowtie \Pi_{P_id}(\sigma_{Boarding='Mumbai' \wedge Flight_No='3005' \wedge Pilot_name='Raj'}(Pilot \bowtie Bookings)))$

6406532774662. ✗ $\Pi_{P_name}(Passenger \bowtie \Pi_{Pilot_name}(\sigma_{Boarding='Mumbai' \wedge Flight_No='3005' \wedge Pilot_name='Raj'}(Pilot \bowtie Bookings)))$

6406532774663. ✗ $\Pi_{P_name}(Passenger \bowtie \Pi_{P_id}(\sigma_{Boarding='Mumbai' \wedge Flight_No='3005' \wedge Pilot_name='Raj'}(Passenger \bowtie Bookings)))$

6406532774664. ✗ $\Pi_{P_name}(Passenger \bowtie \Pi_{P_id}(\sigma_{Destination='Mumbai' \wedge Flight_No='3005' \wedge Pilot_name='Raj'}(Pilot \bowtie Passenger)))$

Sub-Section Number :

4

Sub-Section Id :

640653122706

Question Shuffling Allowed :

Yes

Question Number : 6 Question Id : 640653824989 Question Type : MSQ

Correct Marks : 3 Max. Selectable Options : 0

Question Label : Multiple Select Question

Consider a table Employees with the following attributes:

Employees(ID, Name, Department, Salary)

Which of the following represent(s) the valid output(s) of the following query?

```
select salary
from Employees
where salary like '10%_2_%'
```

Options :

6406532774624. ✗ 1002

6406532774625. ✓ 101020

6406532774626. ✗ 10200

6406532774627. ✓ 10022

Question Number : 7 Question Id : 640653825002 Question Type : MSQ

Correct Marks : 3 Max. Selectable Options : 0

Question Label : Multiple Select Question

Consider the following relations:

players(pid, name, age, jersey_no)

teams(team_name, matches, points, pid)

Choose the correct TRC or DRC expression which is equivalent to the below SQL query.

```
SELECT p.name, t.points
FROM players p natural join teams t
WHERE p.jersey_no = 7
```

Options :

6406532774665. ✓ $\{x \mid \exists p \in \text{players} \exists t \in \text{teams}(p.\text{pid} = t.\text{pid} \wedge p.\text{jersey_no} = 7 \wedge x.\text{name} = p.\text{name} \wedge x.\text{points} = t.\text{points})\}$

6406532774666. ✗ $\{x \mid \exists p \in \text{players} \exists t \in \text{teams}(p.\text{pid} = t.\text{pid} \wedge p.\text{jersey_no} = 7 \wedge x.\text{name} = p.\text{name})\}$

6406532774667. ✓ $\{ \langle b, o \rangle \mid \exists a, b, c, d (\langle a, b, c, d \rangle \in \text{players} \wedge d = 7) \wedge \exists m, n, o, p (\langle m, n, o, p \rangle \in \text{teams} \wedge a = p) \}$

6406532774668. ✗ $\{ \langle b, o \rangle \mid \exists a, b, c, d (\langle a, b, c, d \rangle \in \text{players} \wedge d = 7) \wedge \exists m, n, o, p (\langle m, n, o, p \rangle \in \text{teams}) \}$

Sub-Section Number :

5

Sub-Section Id :

640653122707

Question Shuffling Allowed :

No

Question Id : 640653824990 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Question Numbers : (8 to 9)

Question Label : Comprehension

Consider the following data for given subquestions:

Driver_ID	Name	Team	Salary
55	Carlos Sainz	Scuderia Ferrari	2500000
16	Charles Leclerc	Scuderia Ferrari	2300000
4	Lando Norris	McLaren	2100000
81	Oscar Piastri	McLaren	1800000
44	Lewis Hamilton	Mercedes AMG	2600000
63	George Russell	Mercedes AMG	2000000
1	Max Verstappen	RedBull Racing	2800000
11	Sergio Perez	RedBull Racing	2500000
14	Fernando Alonso	Aston Martin	2300000
18	Lance Stroll	Aston Martin	1700000

Table 4: Figure 3: F1_Drivers

Team_ID	Team	Country	Ranking
1	Scuderia Ferrari	Italy	1
2	Mercedes AMG	Germany	4
3	McLaren	UK	2
4	RedBull Racing	Austria	5
5	Aston Martin	UK	3

Table 5: Figure 3: F1_Teams

Sub questions

Question Number : 8 Question Id : 640653824991 Question Type : MCQ

Correct Marks : 4

Question Label : Multiple Choice Question

What will be the output of the following SQL query:

```
select distinct Team
from F1_Teams
where exists (select name
              from F1_Drivers
              where F1_Drivers.Team = F1_Teams.Team and salary>2000000);
```

Options :

6406532774628. ✖ Distinct names of all such teams that have no driver with salary higher than 2000000

6406532774629. ✖ Distinct names of all such teams that have all drivers with salary higher than 2000000

6406532774630. ✔ Distinct names of all such teams that have at least one driver with salary higher than 2000000

6406532774631. ✖ Distinct names of all such teams that have exactly one driver with salary

higher than 2000000

Question Number : 9 Question Id : 640653824992 Question Type : SA

Correct Marks : 4

Question Label : Short Answer Question

How many tuples will the following query return?

```
select name
from F1_Drivers
where salary > all (select salary
                    from F1_Drivers
                    where Team = 'Mercedes AMG');
```

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Sub-Section Number :	6
Sub-Section Id :	640653122708
Question Shuffling Allowed :	Yes

Question Number : 10 Question Id : 640653824993 Question Type : MSQ

Correct Marks : 2 Max. Selectable Options : 0

Question Label : Multiple Select Question

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

Options :

- 6406532774633. ✖ All candidate keys are primary keys
- 6406532774634. ✔ A primary key is also a candidate key
- 6406532774635. ✖ A primary key consists of exactly one attribute
- 6406532774636. ✔ A candidate key is a minimal super key

Sub-Section Number :	7
Sub-Section Id :	640653122709
Question Shuffling Allowed :	No

Question Id : 640653824995 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Question Numbers : (11 to 13)

Question Label : Comprehension

Consider the E-R diagram given in Figure 1 and answer the subquestions.

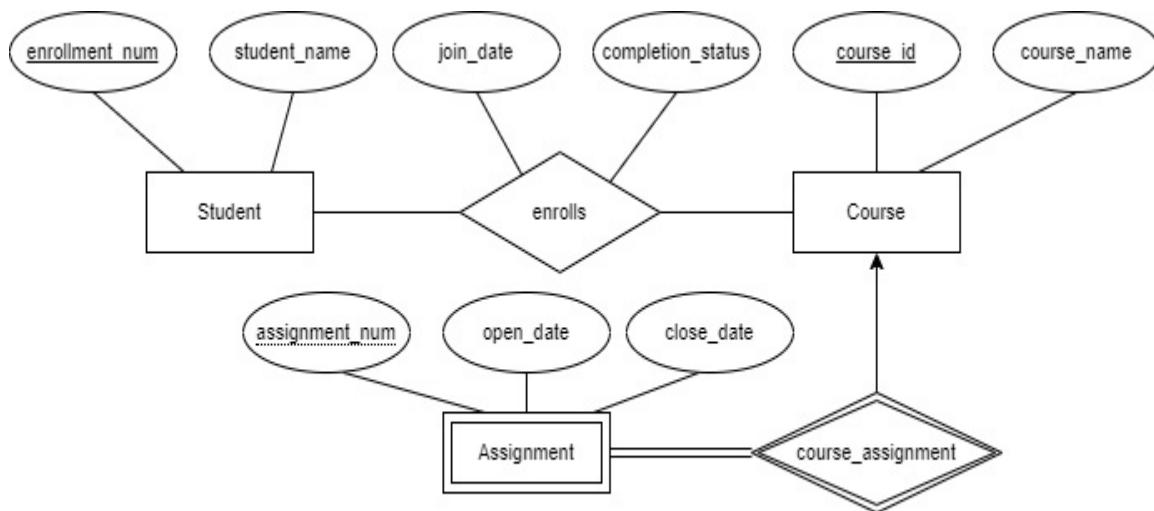


Figure 1: E-R diagram

Sub questions

Question Number : 11 Question Id : 640653824996 Question Type : MCQ

Correct Marks : 3

Question Label : Multiple Choice Question

Identify the correct relational schema for the relationship set **enrolls**.

Note: The primary key is underlined.

Options :

6406532774641. ✖ **enrolls**(join_date, completion_status)

6406532774642. ✖ **enrolls**(enrollment_num, join_date, completion_status)

6406532774643. ✖ **enrolls**(course_id, enrollment_num, join_date, completion_status)

6406532774644. ✔ **enrolls**(course_id, enrollment_num, join_date, completion_status)

Question Number : 12 Question Id : 640653824997 Question Type : MCQ

Correct Marks : 3

Question Label : Multiple Choice Question

Identify the correct relational schema for the entity set **Assignment**.

Note: The primary key is underlined.

Options :

6406532774645. ✖ **Assignment**(assignment_num, open_date, close_date)

6406532774646. ✓ Assignment(course_id, assignment_num, open_date, close_date)

6406532774647. ✗ Assignment(assignment_num, course_id, open_date, close_date)

6406532774648. ✗ Assignment(assignment_num, course_id, open_date, close_date)

Question Number : 13 Question Id : 640653824998 Question Type : MSQ

Correct Marks : 3 Max. Selectable Options : 0

Question Label : Multiple Select Question

With reference to the relationship
between Student and Course,
which of the statement(s) is/are
TRUE?

Options :

6406532774649. ✗ Each course must have at least one student.

6406532774650. ✗ Each student must have enrolled for at least one course.

6406532774651. ✓ Some courses may have no students.

6406532774652. ✓ A student may enroll for many courses.

Sub-Section Number : 8

Sub-Section Id : 640653122710

Question Shuffling Allowed : Yes

Question Number : 14 Question Id : 640653824994 Question Type : MSQ

Correct Marks : 4 Max. Selectable Options : 0

Question Label : Multiple Select Question

Consider the tables r and s.

A	B	C	D
p	1	p	a
q	2	r	a
r	4	q	b
p	1	r	a
s	2	q	b

Table r

B	D	E
1	a	p
3	a	q
1	a	r
2	b	s
3	b	t

Table s

A	B	D
p	1	a
s	2	b

result

Which of the following relational algebra operation(s) on tables r and s will produce table **result**?

Options :

6406532774637. ✖ $\Pi_{A,r.B,r.D}(\sigma_{((r.B=s.B) \vee (r.D=s.D))}(r \times s))$

6406532774638. ✖ $\Pi_{A,r.B,r.D}(\sigma_{(r.D=s.D)}(r \times s))$

6406532774639. ✔ $\Pi_{A,r.B,r.D}(\sigma_{((r.B=s.B) \wedge (r.D=s.D))}(r \times s))$

6406532774640. ✔ $\Pi_{A,B,D}(r \bowtie s)$

Question Number : 15 Question Id : 640653824999 Question Type : MSQ

Correct Marks : 4 Max. Selectable Options : 0

Question Label : Multiple Select Question

Consider a relational schema:

Parts(Pid, Pname, Price, Quantity)

Vendors (Vid, Vname, Location, Pid)

Consider the SQL query:

```
SELECT Distinct Vname FROM Parts NATURAL JOIN Vendors
WHERE Price < 5000 and location = 'Mumbai'
```

Choose the correct relational algebra expression(s) which will give the same output as of the above SQL query.

Options :

6406532774653. ✖ $\Pi_{Vname}(\sigma_{Price < 5000}(Parts)) \cup \Pi_{Vname}(\sigma_{Location = 'Mumbai'}(Vendors))$

6406532774654. ✓ $\Pi_{Vname}(\sigma_{Location='Mumbai' \wedge Price < 5000}(Parts \bowtie Vendors))$

6406532774655. ✗ $\Pi_{Vname}(\sigma_{Price < 5000}(Parts)) \wedge \Pi_{Vname}(\sigma_{Location='Mumbai'}(Vendors))$

6406532774656. ✓ $\Pi_{Vname}(\sigma_{Location='Mumbai' \wedge Price < 5000 \wedge Parts.Pid = Vendors.Pid}(Parts \times Vendors))$

Sub-Section Number :

9

Sub-Section Id :

640653122711

Question Shuffling Allowed :

Yes

Question Number : 16 Question Id : 640653825000 Question Type : MCQ

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the following table which has three attributes: X, Y and Z, where X is the primary key and Z is the foreign key referencing X.

X	Y	Z
1	1	5
2	2	5
3	1	5
4	2	4
5	2	4
6	1	1
7	4	1
8	4	7

Which of the following sets of tuples are additionally deleted when the tuple (4,2,4) is deleted and ON DELETE CASCADE construct is applied over the table?

Options :

6406532774657. ✗ (2,2,5) and (3,1,5)

6406532774658. ✗ (5,2,4), (1,1,5), (2,2,5) and (3,1,5)

6406532774659. ✗ (6,1,1),(7,4,1) and (8,4,7)

6406532774660. ✓ All the remaining rows will be deleted

PDSA

Section Id :

64065359209

Section Number :

2

Section type :

Online