CBSE Paper 2023

10. Fill in the blank. **1**

_____ is a number of tuples in a relation.

(a) Attribute (b) Degree

(c) Domain (d) Cardinality

12. Fill in the blank : **1**

_____ clause is used with SELECT statement to display data in a sorted form with respect to a specified column.

(a) WHERE (b) ORDER BY

(c) HAVING (d) DISTINCT

25. (a) Differentiate between CHAR and VARCHAR data types in SQL with appropriate example. **2**

OR

(b) Name any two DDL and any two DML commands. **2**

26. (a) Consider the following tables – LOAN and BORROWER : **1 + 2**

Table : LOAN

LOAN_NO	B_NAME	AMOUNT
L-170	DELHI	3000
L-230	KANPUR	4000

Table : BORROWER

CUST_NAME	LOAN_NO
JOHN	L-171
KRISH	L-230
RAVYA	L-170

How many rows and columns will be there in the natural join of these two tables ?

(b) Write the output of the queries (i) to (iv) based on the table, WORKER given below :

TABLE: WORKER

W_ID	F_NAME	L_NAME	CITY	STATE
102	SAHIL	KHAN	KANPUR	UTTAR PRADESH
104	SAMEER	PARIKH	ROOP NAGAR	PUNJAB
105	MARY	JONES	DELHI	DELHI
106	MAHIR	SHARMA	SONIPAT	HARYANA
107	ATHARVA	BHARDWAJ	DELHI	DELHI
108	VEDA	SHARMA	KANPUR	UTTAR PRADESH

(i) `SELECT F_NAME, CITY FROM WORKER ORDER BY STATE DESC;`

(ii) `SELECT DISTINCT (CITY) FROM WORKER;`

(iii) `SELECT F_NAME, STATE FROM WORKER WHERE L_NAME LIKE '_HA%';`

(iv) `SELECT CITY,COUNT(*) FROM WORKER GROUP BY CITY;`

28. (a) Write the outputs of the SQL queries (i) to (iv) based on the relations COMPUTER and SALES given below : **2**

Table : COMPUTER

PROD_ID	PROD_NAME	PRICE	COMPANY	TYPE
P001	MOUSE	200	LOGITECH	INPUT
P002	LASER PRINTER	4000	CANON	OUTPUT
P003	KEYBOARD	500	LOGITECH	INPUT
P004	JOYSTICK	1000	IBALL	INPUT
P005	SPEAKER	1200	CREATIVE	OUTPUT
P006	DESKJET PRINTER	4300	CANON	OUTPUT

Table : SALES

PROD_ID	QTY_SOLD	QUARTER
P002	4	1
P003	2	2
P001	3	2
P004	2	1

(i) `SELECT MIN(PRICE), MAX(PRICE) FROM COMPUTER;`

(ii) `SELECT COMPANY, COUNT(*) FROM COMPUTER GROUP BY COMPANY HAVING COUNT(COMPANY) > 1;`

(iii) `SELECT PROD_NAME, QTY_SOLD FROM COMPUTER C, SALES S WHERE C.PROD_ID=S.PROD_ID AND TYPE = 'INPUT';`

(iv) `SELECT PROD_NAME, COMPANY, QUARTER FROM COMPUTER C, SALES S WHERE C.PROD_ID=S. PROD_ID;`

(b) Write the command to view all databases. **1**

SECTION – E

34. The school has asked their estate manager Mr. Rahul to maintain the data of all the labs in a table LAB. Rahul has created a table and entered data of 5 labs.

LABNO	LAB_NAME	INCHARGE	CAPACITY	FLOOR
L001	CHEMISTRY	Daisy	20	I
L002	BIOLOGY	Venky	20	II
L003	MATH	Preeti	15	I
L004	LANGUAGE	Daisy	36	III
L005	COMPUTER	Mary Kom	37	II

Based on the data given above answer the following questions :

(i) Identify the columns which can be considered as Candidate keys. **1**

(ii) Write the degree and cardinality of the table. **1**

(iii) Write the statements to : **2**

(a) Insert a new row with appropriate data.

(b) Increase the capacity of all the labs by 10 students which are on 'I' Floor.

OR

(Option for part (iii) only)

(iii) Write the statements to :

(a) Add a constraint PRIMARY KEY to the column LABNO in the table.

(b) Delete the table LAB. **2**

CBSE Paper 2022

3. Differentiate between the terms Attribute and Domain in the context of Relational Data Model. **2**

5. Write the output of SQL queries (a) to (d) based on the table VACCINATION_DATA given below : **2**

TABLE : **VACCINATION_DATA**

VID	Name	Age	Dose1	Dose2	City
101	Jenny	27	2021-12-25	2022-01-31	Delhi
102	Harjot	55	2021-07-14	2021-10-14	Mumbai
103	Srikanth	43	2021-04-18	2021-07-20	Delhi
104	Gazala	75	2021-07-31	NULL	Kolkata
105	Shiksha	32	2022-01-01	NULL	Mumbai

(a) `SELECT Name, Age FROM VACCINATION_DATA WHERE Dose2 IS NOT NULL AND Age > 40;`

(b) `SELECT City, COUNT(*) FROM VACCINATION_DATA GROUP BY City;`

(c) `SELECT DISTINCT City FROM VACCINATION_DATA;`

(d) `SELECT MAX (Dosel), MIN (Dose2) FROM VACCINATION_DATA;`

6. Write the output of SQL queries (a) and (b) based on the following two tables DOCTOR and PATIENT belonging to the same database : **2**

Table : **DOCTOR**

DNO	DNAME	FEES
D1	AMITABH	1500
D2	ANIKET	1000
D3	NIKHIL	1500
D4	ANJANA	1500

Table : **PATIENT**

PNO	PNAME	ADMDATE	DNO
P1	NOOR	2021-12-25	D1
P2	ANNIE	2021-11-20	D2
P3	PRAKASH	2020-12-10	NULL
P4	HARMEET	2019-12-20	D1

(a)
```
SELECT DNAME, PNAME FROM DOCTOR
NATURAL JOIN PATIENT ;
```

(b)
```
SELECT PNAME, ADMDATE, FEES
FROM PATIENT P, DOCTOR D
WHERE D.DNO = P.DNO AND FEES > 1000;
```

7. Differentiate between Candidate Key and Primary Key in the context of Relational Database Model. **2**

OR

Consider the following table PLAYER :

Table : **PLAYER**

PNO	NAME	SCORE
P1	RISHABH	52
P2	HUSSAIN	45
P3	ARNOLD	23
P4	ARNAV	18
P5	GURSHARAN	42

(a) Identify and write the name of the most appropriate column from the given table PLAYER that can be used as a Primary key.

(b) Define the term Degree in relational data model. What is the Degree of the given table PLAYER ?

9. (i) A SQL table **ITEMS** contains the following columns : **1**

INO, INAME, QUANTITY, PRICE, DISCOUNT

Write the SQL command to remove the column **DISCOUNT** from the table.

(ii) Categorize the following SQL commands into **DDL** and **DML** : **2**

CREATE, UPDATE, INSERT, DROP

10. Rohan is learning to work upon Relational Database Management System (RDBMS) application. Help him to perform following tasks : **3**

(a) To open the database named **"LIBRARY"**.

(b) To display the names of all the tables stored in the opened database.

(c) To display the structure of the table **"BOOKS"** existing in the already opened database **"LIBRARY"**.

11. Write SQL queries for (a) to (d) based on the tables PASSENGER and FLIGHT given below : **4**

Table : **PASSENGER**

PNO	NAME	GENDER	FNO
1001	Suresh	MALE	F101
1002	Anita	FEMALE	F104
1003	Harjas	MALE	F102
1004	Nita	FEMALE	F103

Table : **FLIGHT**

FNO	START	END	F_DATE	FARE
F101	MUMBAI	CHENNAI	2021-12-25	4500
F102	MUMBAI	BENGALURU	2021-11-20	4000
F103	DELHI	CHENNAI	2021-12-10	5500
F104	KOLKATA	MUMBAI	2021-12-20	4500
F105	DELHI	BENGALURU	2021-01-15	5000

(a) Write a query to change the fare to 6000 of the flight whose FNO is F104.

(b) Write a query to display the total number of MALE and FEMALE PASSENGERS.

(c) Write a query to display the **NAME**, corresponding **FARE** and **F_DATE** of all PASSENGERS who have a flight to **START** from DELHI.

(d) Write a query to delete the records of flights which end at Mumbai.

CBSE Paper 2021

11. In SQL, write the name of the aggregate function which will display the cardinality of a table. *1*

12. Which of the following clauses in SQL is most appropriate to use to select matching tuples in a specific range of values ? *1*

(A) **IN**

(B) **LIKE**

(C) **BETWEEN**

(D) **IS**

13. Which of the following is ***not*** a valid datatype in SQL ? *1*

(A) `DATE`

(B) `STRING`

(C) `DECIMAL`

(D) `CHAR`

14. Which of the following is ***not*** a valid DML command in SQL ? *1*

(A) `INSERT`

(B) `UPDATE`

(C) `ALTER`

(D) `DELETE`

18. Which of the following commands in SQL is used to add a new record into a table ? *1*

(A) `ADD`

(B) `INSERT`

(C) `UPDATE`

(D) `NEW`

19. Which of the following is the correct expansion of DML in context of SQL ? *1*

(A) Direct Machine Language

(B) Data Mixing Language

(C) Distributed Machine Language

(D) Data Manipulation Language

30. What are Tuples in a SQL Table ? Write a suitable example with a SQL Table to illustrate your answer. *2*

32. Write the names of any two constraints and their respective uses in SQL. *2*

36. Write the outputs of the SQL queries (i) to (iii) based on the relations **CUSTOMER** and **TRANSACTION** given below : *3*

Table : **CUSTOMER**

ACNO	NAME	GENDER	BALANCE
C1	RISHABH	M	15000
C2	AAKASH	M	12500
C3	INDIRA	F	9750
C4	TUSHAR	M	14600
C5	ANKITA	F	22000

Table : **TRANSACTION**

ACNO	TDATE	AMOUNT	TYPE
C1	2020-07-21	1000	DEBIT
C5	2019-12-31	1500	CREDIT
C3	2020-01-01	2000	CREDIT

(i)
```
SELECT MAX(BALANCE), MIN(BALANCE)FROM CUSTOMER
WHERE GENDER = 'M';
```

(ii)
```
SELECT SUM(AMOUNT), TYPE FROM TRANSACTION
GROUP BY TYPE;
```

(iii)
```
SELECT NAME, TDATE, AMOUNT
FROM CUSTOMER C, TRANSACTION T
WHERE C.ACNO = T.ACNO AND TYPE = 'CREDIT';
```

39. Write SQL statements for the following queries (i) to (v) based on the relations CUSTOMER and TRANSACTION given below : *5*

Table : **CUSTOMER**

ACNO	NAME	GENDER	BALANCE
C1	RISHABH	M	15000
C2	AAKASH	M	12500
C3	INDIRA	F	9750
C4	TUSHAR	M	14600
C5	ANKITA	F	22000

Table : **TRANSACTION**

ACNO	TDATE	AMOUNT	TYPE
C1	2020-07-21	1000	DEBIT
C5	2019-12-31	1500	CREDIT
C3	2020-01-01	2000	CREDIT

(a) To display all information about the **CUSTOMER**s whose NAME starts with **'A'**.

(b) To display the **NAME** and **BALANCE** of Female **CUSTOMER**s (with **GENDER** as **'F'**) whose **TRANSACTION** Date **(TDATE)** is in the year **2019**.

(c) To display the total number of **CUSTOMER**s for each **GENDER**.

(d) To display the **CUSTOMER NAME** and **BALANCE** in ascending order of **GENDER**.

(e) To display **CUSTOMER NAME** and their respective **INTEREST** for all **CUSTOMER**s where **INTEREST** is calculated as **8%** of **BALANCE**.

22. Anmol maintains that database of Medicines for his pharmacy using SQL to store the data. The structure of the table PHARMA for the purpose is as follows :

- **Name of the table - PHARMA**
- **The attributes of PHARMA are as follows :**

MID - numeric
MNAME - character of size 20
PRICE - numeric
UNITS - numeric
EXPIRY - date

Table : **PHARMA**

MID	MNAME	PRICE	UNITS	EXPIRY
M1	PARACETAMOL	12	120	2022-12-25
M2	CETRIZINE	6	125	2022-10-12
M3	METFORMIN	14	150	2022-05-23
M4	VITAMIN B-6	12	120	2022-07-01
M5	VITAMIN D3	25	150	2022-06-30
M6	TELMISARTAN	22	115	2022-02-25

(a) Write the degree and cardinality of the table **PHARMA**. *1*

(b) Identify the attribute best suitable to be declared as a primary key. *1*

(c) Anmol has received a new medicine to be added into his stock, but for which he does not know the number of UNITS. So he decides to add the medicine without its value for UNITS. The rest of the values are as follows :

MID	MNAME	PRICE	EXPIRY
M7	SUCRALFATE	17	2022-03-20

Write the SQL command which Anmol should execute to perform the required task. *1*

(d) Anmol wants to change the name of the attribute UNITS to QUANTITY in the table PHARMA. Which of the following commands will he use for the purpose ? *1*

(i) `UPDATE`

(ii) `DROP TABLE`

(iii) `CREATE TABLE`

(iv) `ALTER TABLE`

(e) Now Anmol wants to increase the PRICE of all medicines by 5. Which of the following commands will he use for the purpose ? *1*

(i) `UPDATE SET`

(ii) `INCREASE BY`

(iii) `ALTER TABLE`

(iv) `INSERT INTO`

CBSE Paper 2020

4. (a) Which SQL command is used to add a new attribute in a table ? *1*

(b) Which SQL aggregate function is used to count all records of a table ? *1*

(c) Which clause is used with a **SELECT** command in SQL to display the records in ascending order of an attribute ? *1*

(d) Write the full form of the following abbreviations : *1*

(i) DDL

(ii) DML

(e) Observe the following tables, EMPLOYEES and DEPARTMENT carefully and answer the questions that follow : *2*

TABLE : EMPLOYEES

ENO	ENAME	DOJ	DNO
E1	NUSRAT	2001-11-21	D3
E2	KABIR	2005-10-25	D1

TABLE : DEPARTMENT

DNO	DNAME
D1	ACCOUNTS
D2	HR
D3	ADMIN

(i) What is the Degree of the table EMPLOYEES ? What is the cardinality of the table DEPARTMENT ?

(ii) What is a Primary Key ? Explain.

OR

Differentiate between Selection and Projection operations in context of a Relational Database. Also, illustrate the difference with one supporting example of each. *2*

(f) Write whether the following statements are True or False for the GET and POST methods in Django : *2*

(i) POST requests are never cached.

(ii) GET requests do not remain in the browser history.

(g) Write outputs for SQL queries (i) to (iii), which are based on the following tables, CUSTOMERS and PURCHASES : *3*

Table : CUSTOMERS

CNO	CNAME	CITIES
C1	SANYAM	DELHI
C2	SHRUTI	DELHI
C3	MEHER	MUMBAI
C4	SAKSHI	CHENNAI
C5	RITESH	INDORE
C6	RAHUL	DELHI
C7	AMEER	CHENNAI
C8	MINAKSHI	BANGALORE
C9	ANSHUL	MUMBAI

Table : PURCHASES

SNO	QTY	PUR_DATE	CNO
S1	15	2018-12-25	C2
S2	10	2018-11-10	C1
S3	12	2018-11-10	C4
S4	7	2019-01-12	C7
S5	11	2019-02-12	C2
S6	10	2018-10-12	C6
S7	5	2019-05-09	C8
S8	20	2019-05-09	C3
S9	8	2018-05-09	C9
S10	15	2018-11-12	C5
S11	6	2018-08-04	C7

(i)
```
SELECT COUNT(DISTINCT CITIES) FROM CUSTOMERS;
```

(ii)
```
SELECT MAX(PUR_DATE) FROM PURCHASES;
```

(iii)
```
SELECT CNAME, QTY, PUR_DATE FROM CUSTOMERS,
PURCHASES WHERE CUSTOMERS.CNO = PURCHASES.CNO
AND QTY IN (10,20);
```

(h) Write SQL queries for (i) to (iv), which are based on the tables : CUSTOMERS and PURCHASES given in the question 4(g) : *4*

(i) To display details of all CUSTOMERS whose CITIES are neither Delhi nor Mumbai.

(ii) To display the CNAME and CITIES of all CUSTOMERS in ascending order of their CNAME.

(iii) To display the number of CUSTOMERS along with their respective CITIES in each of the CITIES.

(iv) To display details of all PURCHASES whose Quantity is more than 15.

CBSE Paper 2019

5. Write SQL queries for (i) to (iv) and write outputs for SQL queries (v) to (viii), which are based on the table given below : *8*

Table : TRAINS

TNO	TNAME	START	END
11096	Ahimsa Express	Pune Junction	Ahmedabad Junction
12015	Ajmer Shatabdi	New Delhi	Ajmer Junction
1651	Pune Hbj Special	Pune Junction	Habibganj
13005	Amritsar Mail	Howrah Junction	Amritsar Junction
12002	Bhopal Shatabdi	New Delhi	Habibganj
12417	Prayag Raj Express	Allahabad Junction	New Delhi
14673	Shaheed Express	Jaynagar	Amritsar Junction
12314	Sealdah Rajdhani	New Delhi	Sealdah
12498	Shane Punjab	Amritsar Junction	New Delhi
12451	Shram Shakti Express	Kanpur Central	New Delhi
12030	Swarna Shatabdi	Amritsar Junction	New Delhi

Table : PASSENGERS

PNR	TNO	PNAME	GENDER	AGE	TRAVELDATE
P001	13005	R N AGRAWAL	MALE	45	2018-12-25
P002	12015	P TIWARY	MALE	28	2018-11-10
P003	12015	S TIWARY	FEMALE	22	2018-11-10
P004	12030	S K SAXENA	MALE	42	2018-10-12
P005	12030	S SAXENA	FEMALE	35	2018-10-12
P006	12030	P SAXENA	FEMALE	12	2018-10-12
P007	13005	N S SINGH	MALE	52	2018-05-09
P008	12030	J K SHARMA	MALE	65	2018-05-09
P009	12030	R SHARMA	FEMALE	58	2018-05-09

NOTE : All Dates are given in 'YYY-MM-DD' format.

CBSE Paper 2018

5. (a) Observe the following tables VIDEO and MEMBER carefully and write the name of the RDBMS operation out of (i) SELECTION (ii) PROJECTION (iii) UNION (iv) CARTESIAN PRODUCT, which has been used to produce the output as shown below. Also, find the Degree and Cardinality of the final result. *2*

TABLE : VIDEO

VNO	VNAME	TYPE
F101	The Last Battle	Fiction
C101	Angels and Devils	Comedy
A102	Daredevils	Adventure

TABLE : MEMBER

MNO	MNAME
M101	Namish Gupta
M102	Sana Sheikh
M103	Lara James

TABLE : FINAL RESULT

VNO	VNAME	TYPE	MNO	MNAME
F101	The Last Battle	Fiction	M101	Namish Gupta
F101	The Last Battle	Fiction	M102	Sana Sheikh
F101	The Last Battle	Fiction	M103	Lara James
C101	Angels and Devils	Comedy	M101	Namish Gupta
C101	Angels and Devils	Comedy	M102	Sana Sheikh
C101	Angels and Devils	Comedy	M103	Lara James
A102	Daredevils	Adventure	M101	Namish Gupta
A102	Daredevils	Adventure	M102	Sana Sheikh
A102	Daredevils	Adventure	M103	Lara James

(b) Write SQL queries for (i) to (iv) and find outputs for SQL queries (v) to (viii), which are based on the tables. *6*

TABLE : ACCOUNT

ANO	ANAME	ADDRESS
101	Nirja Singh	Bangalore
102	Rohan Gupta	Chennai
103	Ali Reza	Hyderabad
104	Rishabh Jain	Chennai
105	Simran Kaur	Chandigarh

TABLE : TRANSACT

TRNO	ANO	AMOUNT	TYPE	DOT
T001	101	2500	Withdraw	2017-12-21
T002	103	3000	Deposit	2017-06-01
T003	102	2000	Withdraw	2017-05-12
T004	103	1000	Deposit	2017-10-22
T005	101	12000	Deposit	2017-11-06

(i) To display details of all transactions of TYPE Deposit from Table TRANSACT.

(ii) To display the ANO and AMOUNT of all Deposits and Withdrawals done in the month of October 2017 from table TRANSACT.

(iii) To display the last date of transaction (DOT) from the table TRANSACT for the Accounts having ANO as 103.

(iv) To display all ANO, ANAME and DOT of those persons from tables ACCOUNT and TRANSACT who have done transactions less than or equal to 3000.

(v)
```
SELECT ANO, ANAME FROM ACCOUNT
WHERE ADDRESS NOT IN ('CHENNAI', 'BANGALORE');
```

(vi)
```
SELECT DISTINCT ANO FROM TRANSACT;
```

(vii)
```
SELECT ANO, COUNT(*), MIN(AMOUNT) FROM TRANSACT
GROUP BY ANO HAVING COUNT(*)> 1;
```

(viii)
```
SELECT COUNT(*), SUM(AMOUNT) FROM TRANSACT
WHERE DOT <= '2017-06-01';
```

(i) To display details of all Trains which Start from New Delhi.

(ii) To display the PNR, PNAME, GENDER and AGE of all Passengers whose AGE is below 50.

(iii) To display total number of MALE and FEMALE Passengers.

(iv) To display details of all Passengers travelling in Trains whose TNO is 12015.

(v)
```
SELECT MAX (TRAVELDATE), MIN(TRAVELDATE) FROM
PASSENGERS WHERE GENDER = 'FEMALE';
```

(vi)
```
SELECT END, COUNT(*) FROM TRAINS
GROUP BY END HAVING COUNT(*)>1;
```

(vii)
```
SELECT DISTINCT TRAVELDATE FROM PASSENGERS;
```

(viii)
```
SELECT TNAME, PNAME FROM TRAINS T, PASSENGERS P
WHERE T.TNO = P.TNO AND AGE BETWEEN 50 AND 60;
```

CBSE Paper 2017

5. (a) Observe the following table CANDIDATE carefully and write the name of the RDBMS operation out of (i) SELECTION (ii) PROJECTION (iii) UNION (iv) CARTESIAN PRODUCT, which has been used to produce the output as shown in RESULT. Also, find the Degree and Cardinality of the RESULT. **2**

TABLE : CANDIDATE

NO	NAME	STREAM
C1	AJAY	LAW
C2	ADITI	MEDICAL
C3	ROHAN	EDUCATION
C4	RISHAV	ENGINEERING

RESULT

NO	NAME
C3	ROHAN

(b) Write SQL queries for (i) to (iv) and find outputs for SQL queries (v) to (viii), which are based on the tables : **6**

TABLE : BOOK

Code	BNAME	TYPE
F101	The priest	Fiction
L102	German easy	Literature
C101	Tarzan in the lost world	Comic
F102	Untold Story	Fiction
C102	War heroes	Comic

TABLE : MEMBER

MNO	MNAME	CODE	ISSUEDATE
M101	RAGHAV SINHA	L102	2016-10-13
M103	SARTHAK JOHN	F102	2017-02-23
M102	ANISHA KHAN	C101	2016-06-12

(i) To display all details from table MEMBER in descending order of ISSUEDATE.

(ii) To display the BNO and BNAME of all Fiction Type books from the table BOOK.

(iii) To display the TYPE and number of books in each TYPE from the table BOOK.

(iv) To display all MNAME and ISSUEDATE of those members from table MEMBER who have books issued (i.e. ISSUEDATE) in the year 2017.

(v)
```
SELECT MAX(ISSUEDATE) FROM MEMBER;
```

(vi)
```
SELECT DISTINCT TYPE FROM BOOK;
```

(vii)
```
SELECT A.CODE,BNAME,MNO,MNAME
FROM BOOK A, MEMBER B WHERE A.CODE=B.CODE;
```

(viii)
```
SELECT BNAME FROM BOOK
WHERE TYPE NOT IN ("FICTION","COMIC");
```

CBSE Paper 2016

5. (a) Observe the following STUDENTS and EVENTS tables carefully and write the name of the RDBMS operation which will be used to produce the output as shown in LIST. Also, find the Degree and Cardinality of the LIST. **2**

STUDENTS

NO	NAME
1	Tara Mani
2	Jaya Sarkar
3	Tarini Trikha

EVENTS

EVENTCODE	EVENTNAME
1001	Programming
1002	IT Quiz

LIST

NO	NAME	EVENTCODE	EVENTNAME
1	Tara Mani	1001	Programming
1	Tara Mani	1002	IT Quiz
2	Jaya Sarkar	1001	Programming
2	Jaya Sarkar	1002	IT Quiz
3	Tarini Trikha	1001	Programming
3	Tarini Trikha	1002	IT Quiz

(b) Write SQL queries for (i) to (iv) and find outputs for SQL queries (v) to (viii), which are based on the tables. **6**

Table : VEHICLE

CODE	VTYPE	PERKM
101	VOLVO BUS	160
102	AC DELUXE BUS	150
103	ORDINARY BUS	90
105	SUV	40
104	CAR	20

Note :

- PERKM is Freight Charges per kilometer
- VTYPE is Vehicle Type

Table : TRAVEL

NO	NAME	TDATE	KM	CODE	NOP
101	Janish Kin	2015-11-13	200	101	32
103	Vedika Sahai	2016-04-21	100	103	45
105	Tarun Ram	2016-03-23	350	102	42
102	John Fen	2016-02-13	90	102	40
107	Ahmed Khan	2015-01-10	75	104	2
104	Raveena	2016-05-28	80	105	4
106	Kripal Anya	2016-02-06	200	101	25

Note :

- NO is Traveller Number
- KM is Kilometer travelled
- NOP is number of travellers travelled in vehicle
- TDATE is Travel Date

(i) To display NO, NAME, TDATE from the table TRAVEL in descending order of NO.

(ii) To display the NAME of all the travellers from the table TRAVEL who are travelling by vehicle with code 101 or 102.

(iii) To display the NO and NAME of those travellers from the table TRAVEL who travelled between '2015-12-31' and '2015-04-01'.

(iv) To display all the details from table TRAVEL for the travellers, who have travelled distance more than 100 KM in ascending order of NOP.

(v)
```
SELECT COUNT (*), CODE FROM TRAVEL
GROUP BY CODE HAVING COUNT(*)>1;
```

(vi)
```
SELECT DISTINCT CODE FROM TRAVEL;
```

(vii)
```
SELECT A.CODE,NAME,VTYPE
FROM TRAVEL A,VEHICLE B
WHERE A.CODE=B.CODE AND KM<90;
```

(viii)
```
SELECT NAME,KM*PERKM
FROM TRAVEL A, VEHICLE B
WHERE A.CODE=B.CODE AND A.CODE='105';
```

CBSE Paper 2015

5. (a) Observe the following table carefully and write the names of the most appropriate columns, which can be considered as (i) candidate keys and (ii) primary key. **2**

Id	Product	Qty	Price	Transaction Date
101	Plastic Folder 12"	100	3400	2014-12-14
104	Pen Stand Standard	200	4500	2015-01-31
105	Stapler Medium	250	1200	2015-02-28
109	Punching Machine Big	200	1400	2015-03-12
103	Stapler Mini	100	1500	2015-02-02

(b) Consider the following DEPT and WORKER tables. Write SQL queries for (i) to (iv) and find outputs for SQL queries (v) to (viii) : **6**

Table : DEPT

DCODE	DEPARTMENT	CITY
D01	MEDIA	DELHI
D02	MARKETING	DELHI
D03	INFRASTRUCTURE	MUMBAI
D05	FINANCE	KOLKATA
D04	HUMAN RESOURCE	MUMBAI

Table : WORKER

WNO	NAME	DOJ	DOB	GENDER	DCODE
1001	George K	2013-09-02	1991-09-01	MALE	D01
1002	Ryma Sen	2012-12-11	1990-12-15	FEMALE	D03
1003	Mohitesh	2013-02-03	1987-09-04	MALE	D05
1007	Anil Jha	2014-01-17	1984-10-19	MALE	D04
1004	Manila Sahai	2012-12-09	1986-11-14	FEMALE	D01
1005	R SAHAY	2013-11-18	1987-03-31	MALE	D02
1006	Jaya Priya	2014-06-09	1985-06-23	FEMALE	D05

Note : DOJ refers to date of joining and DOB refers to date of Birth of workers.

(i) To display Wno, Name, Gender from the table WORKER in descending order of Wno.

(ii) To display the Name of all the FEMALE workers from the table WORKER.

(iii) To display the Wno and Name of those workers from the table WORKER who are born between '1987-01-01' and '1991-12-01'.

(iv) To count and display MALE workers who have joined after '1986-01-01'.

(v)
```
SELECT COUNT(*), DCODE FROM WORKER
GROUP BY DCODE HAVING COUNT(*)>1;
```

(vi)
```
SELECT DISTINCT DEPARTMENT FROM DEPT;
```

(vii)
```
SELECT NAME, DEPARTMENT, CITY FROM WORKER W,DEPT D WHERE
W.DCODE=D.DCODE AND WNO<1003;
```

(viii)
```
SELECT MAX(DOJ), MIN(DOB) FROM WORKER;
```