CYCLE TEST- III
2023-24 (Key)

Name of the student: **Date: 04.09.2023**

Grade: XII   **Time: 90 min**

Subject: IP   **Marks: 35**

General Instructions:

This question paper is divided into 5 sections – **A, B, C, D and E**

•**Section A**, consists of 9 questions **(1 – 9).** Each question carries 1 mark.

•**Section B**, consists of 4 questions (**10 – 13**). Each question carries 2 marks.

•**Section C**, consists of 3 questions (**14 – 16**). Each question carries 3 marks.

•**Section D**, consists of 1 question (**17).** It carries 4 marks.

•**Section E**, consists of 1 question (**18**). It carries 5 marks.

•Internal choices have been given for question numbers – 11, 15, 18.

SECTION-A   **9X1=9 Marks**

1. If column "Price" contains the data set (250,500,300,500,150) in table Student, what will be the output after the execution of the given query?

    SELECT SUM (DISTINCT Price) FROM student;

    (a) 1700   **(b) 1200**   **(c) 1000**   **(d) 700**

2. CONCAT( ) function comes under the following category:

    (a) Numeric Function   (b) Aggregate Function

    (c) Text Function   (d) Date and Time Function

3. Write the output of the following statement:

    SELECT SQRT(POWER(2,4));

    (a) 4   **(b) 16**   **(c) 2**   **(d) None of these**

4. MID( ) function works similar to

    (a) INSTR( )   **(b) SUBSTR( )**   (c) TRIM( )   **(d) None of these**

5. Ravisha has stored the records of all students of her class in a MYSQL table. Suggest a suitable SQL clause that she should use to display the names of students in **alphabetical order**.

    (a) SORT BY   (b) ALIGN BY   (c) GROUP BY   **(d) ORDER BY**

6. Consider the SQL string: "PRADESH". Write command to display: " DESH"

    (a) SELECT SUBSTR("PRADESH", 4,4);

    (b) SELECT SUBSTR("PRADESH",4)

    (c) SELECT RIGHT("PRADESH",4)

    (d) All of the above

7. Which one of the following is **not** an aggregate function?

    (a) ROUND( )   (b) SUM( )   (c) COUNT( )   (d) AVG( )

8. Write the output for the SQL Query: SELECT ROUND(547482.694,-2);

    (a) 547500   **(b)** 547400   **(c)** 54700   **(d)** 547483

9. Consider the following table: BOOKS

Bid	BTitle	Price
B1	My Adventures	700
B2	My Journey	500
B2	My Plans	600

Mr.Aarya want to see the Booknames in ascending order of price. Suggest a query from the following:

(a) SELECT * from BOOKS;

(b) SELECT BTITLE ORDER BY PRICE ASC from BOOKS;

(c) SELECT BTITLE from BOOKS ORDER BY PRICE;
(d) SELECT BTITLE ORDER BY ASC PRICE from BOOKS;

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SECTION-B   **4X2=8 Marks**
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10. Name the types of computer networks.

A) Based on network span or geographical spread, networks can be divided into four basic types:

    (i) LAN (Local Area Network)   (ii) MAN (Metropolitan Area Network)

    (iii) WAN (Wide Area Network)   (iv) PAN (Personal Area Network)

11. What is a computer network? Write any two advantages of networks.

A) A Computer network is a collection of interconnected autonomous computing devices so as to exchange information or share resources.

    Advantages:

    ☐ Share resources such as printers and scanners.

    ☐ Share storage, being able to access files from any machines on the network can share data.

    ☐ Can share software: Software can be installed centrally rather than on each machine.

    ☐ Improve Communications: Messages can be sent like internal email, chat, etc.

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(OR)
</div>

Consider the following table 'Transporter' that stores the order details about items to be transported.

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Table : TRANSPORTER
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ORDERNO	DRIVERNAME	DRIVERGRADE	ITEM	TRAVELDATE	DESTINATION
OR101	Ram	A	Television	2023-08-15	Mumbai
OR102	Sravan	B	Refrigerator	2023-07-30	Chennai
OR103	Pavan	A	Television	2023-08-20	Hyderabad
OR104	Mohan	A	Washing Machine	2023-08-25	Hyderabad

(a) Write a query to display names of drivers whose names are three characters long

A) SELECT DRIVERNAME FROM TRANSPORTER WHERE LENGTH(DRIVERNAME)=3

(OR) SELECT DRIVERNAME FROM TRANSPORTER WHERE DRIVERNAME LIKE "_ _ _";

(b) Write the output of the following query:

    SELECT MAX(TRAVELDATE) FROM TRANSPORTER WHERE DRIVERGRADE='A';

A) **MAX(TRAVELDATE)**

    2023-08-25

12. What is the difference between the order by and group by clause. Explain with an example.

A) The **order by** clause is used to show the contents of a table/relation in a sorted manner with respect to the column mentioned after the order by clause. The contents of the column can be arranged in ascending or descending order.

    The **group by** clause is used to group rows in a given column and then **group by** apply an aggregate function eg max(), min() etc on the entire group.

13. Reena is working with functions of MySQL. Explain her following:

      i. What is the purpose of now () function?

      ii. How many parameters does it accept?

      iii. What is the general format of its return type?

A) i. It returns the current date and time.

  ii. None

  iii. The return type for NOW() function is either in 'YYYY-MM-DD HH:MM:SS' format or YYYYMMDDHHMMSS.uuuuuu format, depending on whether the function is used in a string or numeric context.

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SECTION-C   **3X3=9 Marks**
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14. Explain about the following 3 string functions with examples.

    (a) LOWER( )   (b) RTRIM( )   (c) LEFT( )

A) (a) LOWER( ): This function converts a string into lowercase.

```
mysql> SELECT LOWER("My Name is ");
+----------------------+
| LOWER("My Name is ") |
+----------------------+
| my name is           |
+----------------------+
```

(b) RTRIM( ): This function removes trailing spaces i.e., spaces from the right of given string.

```
mysql> SELECT RTRIM('          Bhimavaram          ');
+-------------------------------------------------+
| RTRIM('          Bhimavaram          ') |
+-------------------------------------------------+
|           Bhimavaram                    |
+-------------------------------------------------+
```

(c) LEFT( ): This function returns the leftmost number of characters as specified

```
mysql> SELECT LEFT('Hiroshima',4);
+---------------------+
| LEFT('Hiroshima',4) |
+---------------------+
| Hiro                |
+---------------------+
```

15. **Answer the question (b) and (c) on the basis of the following tables SHOPPE and ACCESSORIES.**

Table: SHOPPE

ID	SName	Area
S01	ABC Computronics	CP
S02	All Infotech Media	GK II
S03	Tech Shopee	CP
S04	Geeks Techno Soft	Nehru Place
S05	Hitech Store	Nehru Place

Table: ACCESSORIES

ID	Iname	Price	Sno
A01	Mother Board	12000	S01
A02	Hard Disk	5000	S01
A03	Keyboard	500	S02
A04	Mouse	300	S01
A05	Mother Board	13000	S02
A06	Keyboard	400	S03
A07	LCD	6000	S04
A08	LCD	5500	S05
A09	Mouse	350	S05
A10	Harddisk	4500	S03

(a) Write an SQL query to display Name, Price of all the Accessories and their respective SName where they are available.

A) SELECT Iname, Price, SName from SHOPPE, ACCESSORIES WHERE SHOPPE.ID=ACCESSORIES.Sno;

(b) Write the output of the following query:
   SELECT Iname, Sname from SHOPPE, ACCESSORIES where SHOPPE.ID = ACCESSORIES.SNO AND PRICE>10000;

A) Iname, Sname

   Mother Board   ABC Computronics

   Mother Board   All Infotech Media

c) Write the output of the following query:

   SELECT Area, Price FROM SHOPPE, ACCESSORIES where SHOPPE.ID=

   ACCESSORIES.SNO AND ACCESSORIES.ID IN ('A05','A07','A10')

A) Area   Price

   GK II   13000

   Nehru Place 6000

   CP   4500

(OR)

Write the output (i-iii) for the following SQL commands.   **Table: FASHION**

ID	Product	Price	Qty
F01	Kajal	970	10
F02	Foundation	2100	15
F03	Night Cream	1700	20
F04	NULL	1400	10
F05	Shampoo	1200	25
F06	Lipstick	850	32

(i) SELECT COUNT(Product) FROM FASHION;

A) **COUNT(Product)**

    5

(ii) SELECT SUM (Price) FROM FASHION WHERE Qty>20;

A) **SUM (Price)**

   2050

(iii) SELECT PRODUCT FROM FASHION WHERE Price>1500 ORDER BY PRICE;

A) PRODUCT

   Night Cream

   Foundation

16. What is an equi join? Explain with a suitable example.

A) A join is a query that combines rows from two or more tables.

   The join, in which columns are compared for equality, is called Equi-Join.

   All the columns in the tables – being joined are included in the results.

Ex: (1) Table : Student

    (2) Table : Stuadd

Query 1 :

SELECT * FROM STUDENT,STUADD WHERE STUDENT.ADMNO=STUADD.ADMNO;

(OR)

SELECT * FROM STUDENT JOIN STUADD ON STUDENT.ADMNO=STUADD.ADMNO;

```
+-------+--------+-------+-------+-----------+
| Admno | sname  | class | Admno | Address   |
+-------+--------+-------+-------+-----------+
|  1001 | Rajesh | XII   |  1001 | Bhimavaram|
|  1002 | Mohan  | XI    |  1002 | Eluru     |
|  1003 | Sunil  | XII   |  1003 | Bhimavaram|
+-------+--------+-------+-------+-----------+
```

Query 2:
SELECT STUDENT.*,ADDRESS FROM STUDENT,STUADD WHERE
STUDENT.ADMNO=STUADD.ADMNO;

```
+-------+--------+-------+-----------+
| Admno | sname  | class | ADDRESS   |
+-------+--------+-------+-----------+
|  1001 | Rajesh | XII   | Bhimavaram|
|  1002 | Mohan  | XI    | Eluru     |
|  1003 | Sunil  | XII   | Bhimavaram|
+-------+--------+-------+-----------+
```

Query 3:
SELECT S1.SNAME,S2.ADDRESS FROM STUDENT S1, STUADD S2 WHERE
S1.ADMNO=S2.ADMNO;

```
+--------+-----------+
| SNAME  | ADDRESS   |
+--------+-----------+
| Rajesh | Bhimavaram|
| Mohan  | Eluru     |
| Sunil  | Bhimavaram|
+--------+-----------+
```

SECTION-D   **1X4=4 Marks**

17. **Consider the following table:**

Table : SALESMAN

Scode	Sname	Area	Qtysold	Dateofjoin
S001	Ravi	North	120	2015-10-01
S002	Sandeep	South	105	2012-08-01
S003	Sunil	NULL	68	2018-02-01
S004	Subh	West	280	2010-04-01
S005	Ankit	East	90	2018-10-01
S006	Raman	North	NULL	2019-12-01

Write SQL queries for (i) and (ii), Predict outputs for (iii) and (iv)
(i) To Display the maximum qtysold from each area.
A) SELECT Area, MAX(Qtysold) FROM SALESMAN GROUP BY Area;

(ii) To Display the average qtysold from each area where number of salesman is more than 1.
A) SELECT Area, AVG(qtysold) FROM SALESMAN GROUP BY AREA HAVING COUNT(*)>1;

(iii) SELECT LENGTH(Sname) FROM SALESMAN WHERE MONTH(Dateofjoin)=10;
A) LENGTH(Sname)
   4
   5

(iv) SELECT Sname FROM SALESMAN WHERE RIGHT(Scode,1)=5;
A) Sname
   Ankit

18. Ms Ramya is working in a school and stores the details of all student in a table SCHOOLDATA. Write SQL statements for (i) to (ii) and outputs for (iii) to (v)

Table : SCHOOLDATA

Admno	Name	Class	House	Percent	Gender	Dob
20150001	Aditya Das	10	Green	86	Male	2006-02-20
20140212	Harsh Sharma	11	Red	75	Male	2004-10-05
20090234	Swapnil Pant	10	Yellow	84	Female	2005-11-21
20130216	Soumen Rao	9	Red	91	Male	2006-04-10
20190227	Rahil Arora	10	Blue	70	Male	2005-05-14
20120200	Akasha Singh	11	Red	64	Female	2004-12-16

(i) Query to display Last 5 characters from each Name.
A) SELECT RIGHT(NAME,5) FROM SCHOOLDATA;
(ii) Query to display the names of students who were born on Monday
A) SELECT NAME FROM SCHOOLDATA WHERE DAYOFWEEK(DOB)= 1;
(OR) SELECT NAME FROM SCHOOLDATA WHERE DAYNAME(DOB)="Monday";

(iii) SELECT NAME, INSTR(NAME,"A") FROM SCHOOLDATA;
A) NAME   INSTR(NAME,"A")
Aditya Das   1
Harsh Sharma   2
Swapnil Pant   3
Soumen Rao   9
Rahil Arora   2
Akasha Singh   1

(iV) SELECT House, Percent MOD 5 FROM SCHOOLDATA WHERE YEAR(DOB)=2006;
A) House   Percent MOD 5
Green   1
Red   1

(v) SELECT HOUSE,COUNT(*) FROM SCHOOLDATA GROUP BY HOUSE;
A) HOUSE   COUNT(*)
Green   1
Red   3
Yellow   1
Blue   1

(OR)

Consider the following table EMP.
Write Queries for (i) and (ii) and write outputs for (iii) to (v)

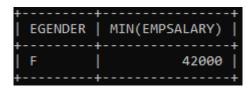| Empid	Empname	Designation	Empsalary	Egender
E1	SUNITHA	MANAGER	75000	F
E2	LAKSHMI	CLERK	42000	F
E3	MOHAN	CLERK	55000	M
E4	SUDHAKAR	MANAGER	90000	M
E5	SURESH	CEO	95000	M

(i) Write a query to display designation wise highest salaries
A) SELECT DESIGNATION, MAX(EMPSALARY) FROM EMP GROUP BY DESIGNATION;
(Output Not Required)

```
+-------------+----------------+
| DESIGNATION | MAX(EMPSALARY) |
+-------------+----------------+
| CEO         |          95000 |
| CLERK       |          55000 |
| MANAGER     |          90000 |
+-------------+----------------+
```

(ii) Write a query to display designation wise total number of employees count.
A) SELECT DESIGNATION, COUNT(*) FROM EMP GROUP BY DESIGNATION;
(Output Not Required)

```
+-------------+----------+
| DESIGNATION | COUNT(*) |
+-------------+----------+
| CEO         |        1 |
| CLERK       |        2 |
| MANAGER     |        2 |
+-------------+----------+
```

(iii) SELECT EGENDER, MIN(EMPSALARY) FROM EMP;
A)

```
+---------+----------------+
| EGENDER | MIN(EMPSALARY) |
+---------+----------------+
| F       |          42000 |
+---------+----------------+
```

(iv) SELECT EMPNAME, DESIGNATION FROM EMP ORDER BY EMPSALARY DESC;

```
+----------+-------------+
| EMPNAME  | DESIGNATION |
+----------+-------------+
| SURESH   | CEO         |
| SUDHAKAR | MANAGER     |
| SUNITHA  | MANAGER     |
| MOHAN    | CLERK       |
| LAKSHMI  | CLERK       |
+----------+-------------+
```

(v) SELECT EGENDER, MAX(EMPSALARY) FROM EMP GROUP BY EGENDER;

```
+---------+----------------+
| EGENDER | MAX(EMPSALARY) |
+---------+----------------+
| F       |          75000 |
| M       |          95000 |
+---------+----------------+
```