

XII – IP – PT 3 (QP) (35 MARKS)

General Instructions:

- The paper is divided into 5 sections –A,B,C,D and E.
- Section A have 9 questions and student need to attempt all questions carrying 01 mark each.
- Section B have 6 questions and student need to attempt 4 questions carrying 02 marks each.
- Section C have 4 questions and student need to attempt 3 questions carrying 03 marks each.
- Section D have 2 questions and student need to attempt 1 question carrying 04 marks.
- Section E have 2 questions and student need to attempt 1 question carrying 05 marks.

SECTION A

(9 X 1m = 9m)

Q1. Which of the following is a DDL command?

- a) Select b) Alter c) Insert d) Update

Q2. Write the output of the following SQL Query: SELECT INSTR('WONDERFUL','FUL');

- a) 6 b) 7 c) -6 d) -7

Q3. Which of the following are correct aggregate functions in SQL?

- a) AVERAGE() b) MAX() c) COUNT() d) TOTAL()

Q4. _____ is used to get a specified day of the month for a given date

- a) GETDATE b) DAY c) DATE d) CURRENTDATE

Q5. Which statement will display the records for all the students who have scored more than 75 marks?

- a) SELECT * FROM student WHERE MARKS GREATER THEN 75;
b) SELECT * FROM student WHERE MARKS =75;
c) SELECT * FROM student WHERE MARKS > 75;
d) SELECT * FROM student MARKS > 75;

Q6. The SQL built-in function _____ obtains the largest value in a numeric column.

- a) MIN b) MAX c) MAXIMUM d) HIGH

Q7. HAVING is used in conjunction with

- a) WHERE b) GROUP BY clause c) ORDER BY d) None of these

Q8. Smridh has recently changed his school so he is not aware of the people, but someone is posting negative demeaning comments on his social media profile. He is also getting repeated mails from unknown people. Every time he goes online, he finds someone chasing him online.

Smridh is a victim of..... :

- a) Eavesdropping b) Stolen identity c) Phishing d) Cyber stalking

Q9. Which of the following device can be operating in place of hub?

- a) Switch b) Bridge c) Router d) Gateway

SECTION B

(4 X 2m = 8m)

Q10. What are the components required for networking?

Q11. Write any two differences among three types of communication cables?

Q12. Consider the table STUDENT given below:

RollNo	Name	Class	DOB	Gender	City	Marks
1	Anand	XI	6/6/97	M	Agra	430
2	Chetan	XII	7/5/94	M	Mumbai	460
3	Geet	XI	6/5/97	F	Agra	470
4	Preeti	XII	8/8/95	F	Mumbai	492
5	Saniyal	XII	8/10/95	M	Delhi	360
6	Maakhiy	XI	12/12/94	F	Dubai	256
7	Neha	X	8/12/95	F	Moscow	324
8	Nishant	X	12/6/95	M	Moscow	429

(a) State the command that will give the output as:

Name
Anand
Chetan
Geet
Preeti

(b) Write a query to display the details of Class XII students;

Q13. From the above case study; What will be the output of the following commands?

(a) Select * from STUDENT where Gender = "F" order by Marks;

(b) Select City, Count(*) from STUDENT GROUP BY City;

Q14. From the above case study;

(a) Prachi has given the following commands to obtain the highest marks from each class:

Select max(Marks) from STUDENT where group by Class;

but she is not getting the desired result. Help her by writing the correct command.

(b) Write the output of the following:

Select ALL CITY From STUDENT;

Q15. From the above case study;

(a) State the command to display the average marks scored by students of each gender who are in class XI?

(b) Write the output of the following query:

Select Name, Marks Where Gender="M" and City NOT IN('Agra','Moscow');

SECTION C

(3 X 3m = 9m)

Q16. Give the output for following SQL queries as per the given table

TABLE: CLUB

COACH-ID	COACHNAME	AGE	SPORTS	DATEOFAPP	PAY	SEX
1	Kukreja	35	Karate	27/03/1996	1000	M
2	Ravina	34	Karate	20/01/1998	1200	F
3	Karan	34	Squash	19/02/1998	2000	M
4	Tarun	33	Basketball	01/01./1998	1500	M
5	Zubin	36	Swimming	12/01/1998	750	M
6	Ketaki	36	Swimming	24/02/1998	800	F
7	Ankita	39	Squash	22/02/1998	2200	F
8	Zareen	37	Karate	22/02/1998	1100	F
9	Kush	41	Swimming	13/01/1998	900	M
10	Shailya	37	Basketball	19/02/1998	1700	M

(i) SELECT COUNT(DISTINCT SPORTS) FROM CLUB;

(ii) SELECT MIN(AGE) FROM CLUB WHERE SEX="F";

(iii) SELECT COACHNAME,AGE FROM CLUB WHERE SPORTS NOT IN ("Karate","Basketball");

Q17. Explain the following SQL functions with suitable examples:

- (i) TRIM() (ii) MID() (iii) DAYNAME()

Q18. Consider the table **STUDENT** with the following details:

STU_ID	NAME	STREAM	MARKS	CLASS
1	Aditya	Science	87.5	12A
2	Vikram	Commerce	88.7	12B
3	Astha	Humanities	76.8	12C
4	Varsha	Science	79.5	12A
5	Kanishka	Science	77.9	12A
6	Anand	Commerce	86.7	12B

Now answer the questions given below:

- Command to select all the Science students from the table STUDENT
- View all the records other than '12A' class
- Modify the marks of Astha as 85.5

Q19. Explain each of the following with illustrations using a table:

- Candidate Key
- Primary Key
- Foreign Key

SECTION D

(1 X 4m = 4m)

Q20. Consider the following table WORKER. Write SQL Commands for the following statements:

Table: WORKER

ECODE	NAME	DESIG	PLEVE L	DOJ	DOB
11	Radhe Shyam	Supervisor	P001	13-Sept-2004	23-Aug-1981
12	Chander Nath	Operator	P003	22-Feb-2010	12-Jul-1987
13	Fizza	Operator	P003	14-Jun-2009	14-Oct-1983
15	Ameen Ahmed	Mechanic	P002	21-Aug-2006	13-Mar-1984
18	Sanya	Clerk	P002	19-Dec-2005	09-Jun-1983

- To display the details of all WORKERs in descending order of DOB
- To display NAME and DESG of those WORKERs, whose PLEVEL is either P001 or P002
- To display the content of all the WORKERs table, whose DOB is in between '19-JAN-1984' and '18-JAN-1987'.
- To add a new row with the following :
19, 'Daya Kishore', 'Operator', 'P003', '19-Jun-2008', '11-Jul-1984'

Q21. Consider the following table STORE. Write SQL commands for the following statements:

TABLE : STORE

ItemNo	Item	Scode	Qty	Rate	LastBuy
2005	Sharpener	23	60	8	30-Jun-09
2003	Ball Pen	22	50	25	01-Feb-10
2002	Gel Pen	21	150	12	24-Feb-10
2006	Gel Pen Classic	21	250	20	11-Mar-09
2001	Eraser Small	22	220	6	19-Jan-09

2004	Eraser Big	22	110	8	02-Dec-09
2009	Ball Pen 0.5	21	180	18	03-Nov-09

- To display details of all the items in the Store table in ascending order of LastBuy.
- To display ItemNo and Item name of those items from Store table whose Rate is more than 15 Rupees.
- To display the details of those items whose Suppliers code (Scode) is 22 or Quantity in Store (Qty) is more than 110 from the table Store.
- To display Minimum Rate of items for each Supplier individually as per Scode from the table Store.

SECTION E

(1 X 5m = 5m)

Q22. Hi Speed Technologies Ltd is a Delhi based organization which is expanding its office setup to Chandigarh. At Chandigarh office campus, they are planning to have 3 different blocks of HR, Accounts and logistics related work. Each block has number of computers which are required to be connected in a network for communication, data and resource sharing.

As a network consultant, you have to suggest the best network related solutions for them for issues/problems raised to (i) to (iv), keeping in mind the distances between various blocks/locations and other given parameters.

Shortest distances between various blocks/locations:

HR Block to Accounts Blocks	400 meters
Accounts Block to Logistics Block	200 meters
Logistics Block to HR Block	150 meters
DELHI Head Office to Chandigarh Office	270 Km

Numbers of Computers installed at various blocks are as follows:

HR Block	70
Accounts Block	50
Logistics Block	40

- Suggest the most appropriate block/location to house the SERVER in the CHANDIGARH Office (out of the 3 blocks) to get the best and effective connectivity. Justify your answer.
- Suggest the best wired medium and draw the cable layout (Block to Block) to efficiently connect various Blocks within the CHANDIGARH office compound.
- Suggest a device/software and its placement that would provide data security for the entire network of CHANDIGARH office.
- Which of the following kind of network, would it be between various blocks of Chandigarh office campus? a)PAN b)WAN c)MAN d)LAN
- Suggest the location of Hub/Switch to be placed in the network?

Q23. a) Write a query to Display 4 characters extracted from 5th right character onwards from the string 'ABCDEFGH'.

b) Write a query to extract institute code form a string 'USS/23/67/09'. The first three characters tell the institute code

c) Predict the output of the following:

- SELECT POW(INSTR('Success@hardwork','@'),2);
- SELECT MONTH('2020-11-23') * POW(2,3);

d) Write the following abbreviations in their full form : (a) IM (b)IRC