TERM 2 – PREBOARD EXAMINATION 1 (2021-22)
SUBJECT – INFORMATICS PRACTICES (065)
CLASS XII

Time: 90 minutes   **Maximum Marks: 35**

General Instructions

- The question paper is divided into 3 sections – A, B and C
- Section A, consists of 7 questions (1-7). Each question carries 2 marks.
- Section B, consists of 3 questions (8-10). Each question carries 3 marks.
- Section C, consists of 3 questions (11-13). Each question carries 4 marks.
- Internal choices have been given for question numbers – 1 , 3, 6 and 8

Section –A
Each question carries 2 marks

1. Rahul is a new student and trying understand computer networks and web technology. But he is getting confused in between the terms "World Wide Web" and "Internet". Make him understand the terms with the help of suitable examples

OR

Varshini is preparing for her IP exam but she was absent during last few classes. Now she is confused between the use of a Modem and a router. Help her to distinguish between them

2. **a)** I :
   - Stores and secures website data
   - Serve the end user requests
   - I control bandwidth to regulate traffic

   Who am I?

   b) What is the use of plug-in with respect to a browser software ?

3. Predict the output of the following queries:
   i. select length("ALAN TURING & ENIGMA");
   ii. select mid("COMPUTER SCIENCE",3);

OR

Briefly explain the purpose of the following SQL functions:
   i.   trim()
   ii.   substr()

4. Ms Anaya was searching on the internet about smartphones to buy one. Later when she visited another unrelated website, she was able to see the advertisements of the same model of phone she searched. Is that a coincidence? Justify your answer

5. Help raj in predicting the output of the following queries:
    i) select mod(20,3);
    ii) select round(17.76);

6. Consider the table **stock** given below:

ItemCode	Type	Company	Price	Units
M008	Smart Phone	Micromax	12000	25
L005	Laptop	Acer	38500	12
M009	Smart Phone	Samsung	20000	23
L003	Laptop	Lenovo	55000	07
T006	Tablet	Acer	17000	35
L019	Laptop	Samsung	42000	15

Write SQL commands to:
    a. To display companies name in uppercase without duplication
    b. To display the average price of smartphones

OR

Predict the output for the following
    a. select min(price) as 'lowest price' from stock;
    b. select left(ucase(company),2) from stock;

7. Alan created a table student with fields, rollno, name, sub and marks. And he wrote the following commands and generated output

    Command1: Select count(*) from student;
    Output 1: 10
    Command2: Select count(marks) from student;
    Output 2: 7
    Command3: Select sum(marks) from student;
    Output 3: 700

What could be reason for variation in outputs of command 1 and command 2
Predict the output of following command

    Command4: Select avg(marks) from student;
    Output4 : ?

Section – B
Each question carries 3 marks

8. Ms Priyanka is working on a MySQL table named 'Stud' having following structure:

```
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| Name   | varchar(20) | YES  |     | NULL    |       |
| dob    | date        | YES  |     | NULL    |       |
| MARKS  | int         | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
```

She need to perform following task on the table:
    i.   To display name of students and their birth month
    ii. To display date of birth of youngest person
    iii. To display the names of student born before 2005 in the increasing order of their marks

Help her to write the queries to achieve the desired tasks.

OR

Write output of the following queries:
    a) SELECT LEFT("INDIAN",2), RIGHT("SUPER COMPUTERS",5);
    b) SELECT ROUND(124.25,-1), POW(2,3);
    c) SELECT LENGTH(SUBSTR("SQL IS SIMPLE",4,5)) ;

9. Vaishnav was studying about MySQL Functions and he got confused between the aggregate functions and scalar functions. Help him to distinguish between the same with the help of examples

10. Write queries to perform the following tasks

    a) To display current day and day name from system date
    b) To display occurrence of the word ASC From the string "APS ASC Bangalore"
    c) To remove table "test" from database mydb;

Section – C
Each question carries 4 marks

11. Consider the table emp given and answer the following questions

Table: emp

EMP_ID	EMP_NAME	DEPT	PAY	ALLOWANCE
E001	ANKITA	DEVELOPMENT	55000	5000
E002	SUSHANT	R&D	45000	4000
E003	VINOD	DEVELOPMENT	50000	5000
E004	MOHITHA	DESIGN	40000	4000
E005	SHIVA	R&D	50000	5000

a) To display total salary of R&D department as 'R&D Total Paid'
b) To display highest salary and highest allowance in each department
c) To display no. of characters in department whose employee name ends with A
d) To display department and department wise average salary if there are more than 1 employee

12. Varun is a database administrator and he has created the following table stock for his client

Table: Stock

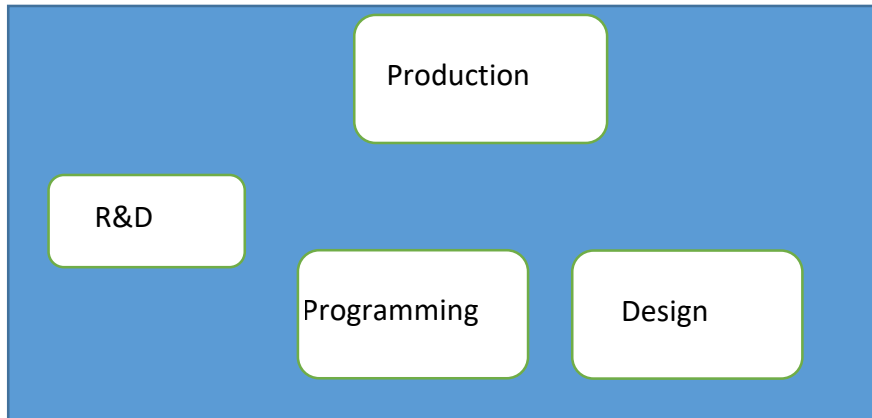| ItemCode	Item	DOP	Units	Price
101	Pen	2007-10-12	700	15
102	Eraser	2008-08-09	500	12
103	Pencil	2008-01-12	800	10
104	A4 Paper	2009-04-11	100	210
105	Writing Pad	2007-03-06	500	70

He has written the following queries

a) select sum(units) from stock where item in ('Pen','Pencil);
b) select min(dop) from stock where units>300 and ItemCode<105;
c) select * from stock order by price desc;
d) select right(item,2) from stock where dop between 2007-01-01 and 2008-12-31;

Help him in predicting the output of the above given queries.

13. Infotech Pvt. is a newly established software company which concentrating on desktop application development and service. They have 4 different sections at their head office cum developement center located in Bangalore.

As a network consultant, you have to suggest the best network related solutions for their issues/problems raised in (I) to (IV), keeping in mind the distances between various sections and other given parameters. Network diagram and details are given below:

Shortest distances between various locations:

R&D to Programming	80 M
Design to Programming	50 M
R&D to Design	200 M
R&D to Production	250 M
Production to Programming	150 M
Design to Production	200 M

Number of Computer in various sections:
- Programming   - 80
- Design   - 50
- R&D   - 20
- Production   - 55

I.   Suggest the most appropriate location of the SERVER in the center and a device to ensure security in the network

II.   Suggest the network cable layout (location to location) to efficiently connect various sections within the center.

III.   What are the possibilities of signal distortion in the network? How to prevent it ?

IV.   Suggest an appropriate technology to connect another Office located in Delhi and development center

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