SET-4

Q.P. Code **90**

Roll No. ☐☐☐☐☐☐☐☐

Candidates must write the Q.P. Code on the title page of the answer-book.

- Please check that this question paper contains **8** printed pages.

- Q.P. Code given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.

- Please check that this question paper contains **13** questions.

- **Please write down the serial number of the question in the answer-book before attempting it.**

- 15 minute time has been allotted to read this question paper. The question paper will be distributed at 10.15 a.m. From 10.15 a.m. to 10.30 a.m., the students will read the question paper only and will not write any answer on the answer-book during this period.

INFORMATICS PRACTICES

Time allowed : 2 hours   *Maximum Marks : 35*

General Instructions :

(i) *This question paper is divided into **3** sections – **A**, **B** and **C**.*

(ii) ***Section A**, consists of **7** questions (1 – 7). Each question carries **2** marks.*

(iii) ***Section B**, consists of **3** questions (8 – 10). Each question carries **3** marks.*

(iv) ***Section C**, consists of **3** questions (11 – 13). Each question carries **4** marks.*

(v) *Internal choices have been given for questions number **1**, **3**, **7**, **8** and **12**.*

SECTION A

(Each question carries 2 marks)

1. (a) Arshiya is a web developer and one of her clients wants her to design a web page to accept donations for an NGO. Which type of web page (static/dynamic) will she create ? *2*

OR

(b) Danny has created a website on Python resources on his laptop. Now, he wants that others should be able to access his website and use the resources. What should he do to achieve his objective ? *2*

2. (a) Define a web browser. *1*

(b) Give examples of any two network devices. *1*

3. (a) Find the output of the following SQL queries : *2*

(i) **SELECT ROUND**(21.341, 2);

(ii) **SELECT MOD**(10, 3);

OR

(b) Give any two differences between **MOD()** and **AVG()** functions in SQL. *2*

4. Define the following terms : *2*

(a) Plug-ins

(b) Add-ons

5. Find the output of the following SQL queries : *2*

(a) **SELECT MID**("YOUNG INDIA",5);

(b) **SELECT INSTR**("MACHINE INTELLIGENCE","IN");

6. Harjat has created the table EMP in his database.

Table : EMP

E_Id	Name	Dept	Comm
E001	Ditya	Admin	35000
E002	Uzair	Production	42500
E003	Rajnikant	Admin	21000
E004	Moushami	Sales	23575
E005	Samantha	Sales	37000
E006	Sunder	Admin	43000

Now he wants to find the sum of commission earned by each department. He has executed the following query :

SELECT dept,sum(comm)

GROUP BY dept

FROM EMP;

But, he got an error. Rewrite the correct query after identifying the error(s). *2*

7. (a) Ms. Anubha is working in a school and stores the details of all students in a Table : **SCHOOL**

Table : SCHOOL

Admid	Sname	Grade	House	Per	Gender	Dob
20150001	Aditya Das	10	Green	86	Male	2006-02-20
20140212	Harsh Sharma	11	Red	50	Male	2004-10-05
20090234	Swapnil Pant	10	Yellow	84	Female	2005-11-21
20130216	Soumen Rao	9	Red	90	Male	2006-04-10
20190227	Rahil Arora	10	Blue	70	Male	2005-05-14
20120200	Akasha Singh	11	Red	70	Female	2004-12-16

Write the SQL statements from the given table to : *2*

(i) Remove **TRAILING SPACES** from column Sname.

(ii) Display the names of students who were born on Tuesday.

OR

(b) Predict the output of the following SQL queries from the above Table : **SCHOOL :** *2*

(i) **SELECT AVG**(Per) **FROM** SCHOOL **WHERE** House="Red";

(ii) **SELECT** Sname, Per **FROM** SCHOOL **WHERE MONTH**(Dob)=11;

8. (a) Predict the output of the following SQL queries :   *3*

(i)   **SELECT LENGTH**("GOOD LUCK");

(ii)   **SELECT POWER**(3, 3);

(iii) **SELECT UPPER**("examination");

OR

(b)   Consider a Table "PETDATA" with the following data :

Table : PETDATA

Id	Pname	Breed	LifeSpan	Price	Discount
101	Adi	Golden Retriever	15	16000	5
202	Candy	Boxer	11	22000	10
303	Dazzler	Bulldog	10	18000	NULL
404	Cooper	Yorkshire Terrier	16	20000	12
505	Akira	Pug	NULL	25000	8

Write SQL queries for the following :   *3*

(i)   Display all the pet names in uppercase.

(ii)   Display the total price of all the pets.

(iii) Display the average discount available on all the pets.

9. Write the names of SQL functions to perform the following operations :   *3*

(a)   Display the name of the month from the given date value.

(b)   Display the day of month from the given date value.

(c)   Count the number of characters in a given string.

10. Consider the following Table : **ITEM :**

Table : ITEM

ID	INAME	PRICE	QTY
P1001	Sketch Pen	20·50	5
P1002	Roller Ball Pen	55·00	1
P1003	Gel Pen	25·10	3
P1004	Notebook	75·80	1

Find the output of the following SQL queries :   *3*

(a) **SELECT** 10+ QTY **FROM** ITEM **WHERE** ID = "P1003";

(b) **SELECT** PRICE∗QTY **FROM** ITEM **WHERE** QTY < 2;

(c) **SELECT LEFT**(INAME,3) **FROM** ITEM;

SECTION C

(Each question carries 4 marks)

11. Consider the Table **FURNITURE** with the following data :

Table : FURNITURE

S.No.	Item	Type	Price	Stockdate
1	Hammock	Bedroom	35500·58	2020-04-21
2	Divan	Living	31000	2019-03-18
3	Bookshelf	Study	38000·657	2019-01-10
4	Writing Desk	Living	61357·425	2020-10-18
5	Nightstand	Bedroom	NULL	2021-07-23

Write SQL queries for the following :   *4*

(a) Display all the records in alphabetical order of Item.

(b) Display the Type and total number of items of each Type.

(c) Display the highest Price.

(d) Display the Item with their price rounded to 1 decimal place.

12. (a) Consider the following table :

Table : EMPLOYEE

Ecode	Ename	Area	Salary	Dept	Doj
S001	Ramesh	North	12000	Sales	2015-12-01
S002	Rohit	South	10500	Finance	2012-08-01
S003	Sunil	South	6800	Front Office	2018-02-01
S004	Sambhav	West	28000	Back Office	2010-04-01
S005	Ankit	East	9000	NULL	2018-10-01
S006	Rishu	North	25000	Finance	2019-02-01

Predict the output for the following SQL queries : *4*

    (i) **SELECT MAX**(Salary), **FROM** EMPLOYEE;

    (ii) **SELECT COUNT**(Dept) **FROM** EMPLOYEE;

    (iii) **SELECT UCASE**(Ename) **FROM** EMPLOYEE **WHERE MONTH**(Doj)=2;

    (iv) **SELECT** Ename **FROM** EMPLOYEE **WHERE** Right(Ecode,1)=5;

OR

(b) Based on the given table **EMPLOYEE** write SQL queries to perform the following operations : *4*
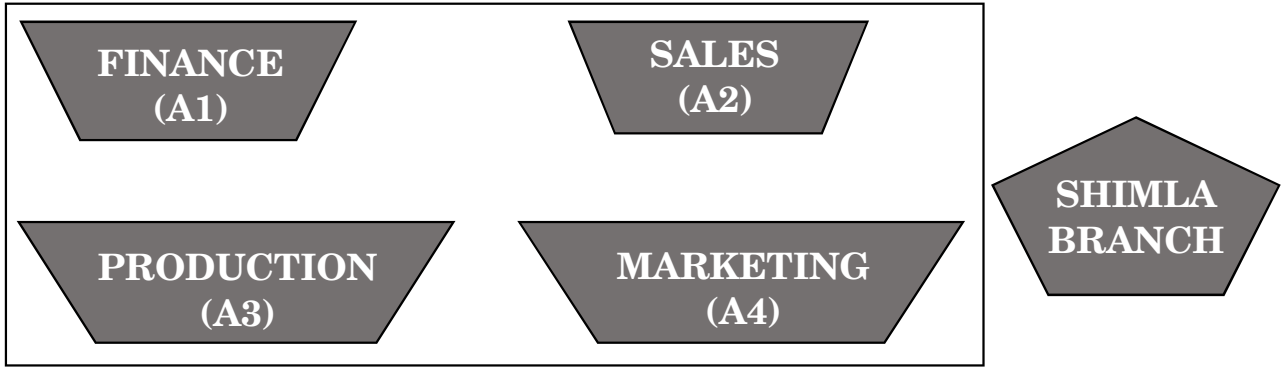
    (i) Count the total number of employees.

    (ii) Display the minimum salary from each area.

    (iii) Display the average salary from each department where number of employees is more than 1.

    (iv) Display all the records in descending order of date of joining.

13. ABC Private Ltd., Bangalore has different divisions, Finance (A1), Sales (A2), Production (A3) and Marketing (A4).

The layout of the Bangalore branch is :

The company also has a branch in Shimla. The management wants to connect all the divisions as well as all the computers of each division (A1, A2, A3, A4).

Distance between the branches are as follows :

A3 to A1	25 m
A1 to A2	40 m
A2 to A4	25 m
A4 to A3	120 m
A3 to A2	990 m
A1 to A4	170 m

The number of computers in each branch is as follows :

A1	50
A2	40
A3	110
A4	60

Based on the above specifications, answer the following questions :   *4*

(a)   Suggest the topology and draw the most suitable cable layout for connecting all the divisions of Bangalore branch.

(b) Suggest the kind of network required (out of LAN, MAN, WAN) for connecting Production (A3) with Shimla branch.

(c) Suggest the placement of the following devices :

(i) Repeater

(ii) Switch/Hub

(d) The company wanted to develop a healthy relation among the employees, therefore the HRA planned an online session with everyone so that they could play games from their devices. Suggest the protocol that helped to send the voice signals over Internet.