

INFORMATICS PRACTICES (Code: 065)

Session: 2021-22

Class: XII

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 ,8 and 12
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Section – A (Each question carries 2 marks)

Q1. **Merlyn** needs a network device that should regenerate the signal over the same network before the signal becomes too weak or corrupted.

John needs a network device to connect the different networks together that work upon different networking models so that the two networks can communicate properly.

Predict the name of the devices. 2

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

Q2. (a). Name any two popular web server software's. 1
(b). Write two advantages and disadvantages of Email. 1

Q3. (a). (1). Differentiate between Where clause and Having clause. 1
(2). Write command to show the structure of the table in the database Test. 1

OR

(b). Explain briefly the use of wildcard characters in SQL with example.

Q4. Predict the output of the following: 2
(a) `SELECT round(9.87,3);` (b) `SELECT pow(2,5);`

Q5. Write the SQL functions which will perform the following operations: 2
i) To display the name of the month of the current date .
ii) To remove spaces from the beginning and end of a string, “ Panorama “.

Q6. Consider the following table (**UNIFORM**): 2

Ucode	UName	UColor	Size	Price
1	Shirt	White	L	580
2	Trousers	Grey	M	500
3	Tie	Blue	L	890
4	T-Shirt	Red	M	650

Write the SQL Queries for the followings:

- (1) Display all the details of uniform whose price are more than 450.
- (2) Display sum of price from the table.

Q7. Observe the following tables TRANSACTIONS and CUSTOMERS carefully and answer the questions that follow: 2

Table: Transaction

TNo.	Type	Amount	CNo.
T1	Credit	1000	C3
T2	Debit	1500	C1

Table: Customer

CNo.	Cname
C1	Zoha
C2	Gagan
C3	Kirti

- (i) What is the degree of the table Transaction? What is the cardinality of the table Customers ?
(ii) Identify the primary key and candidate keys from the table Transactions.

Section – B (Each question carries 3 marks)

Q8. **Predict the output:** 3

- a) SELECT concat("Python is ", "Fun...");
- b) SELECT instr("INFORMATICS", "MA");
- c) SELECT truncate(465.4993, 2);
- d) SELECT mod(5, 2);
- e) SELECT substr("Computer Network", -4);
- f) SELECT dayofyear('2022-02-14');

OR

Write SQL statements for the following:

- a) Display the length of the string "Attendance is Mandatory".
- b) Display the position of "to" in "Photographs".
- c) Display the day name of the week.
- d) Display the system date.
- e) Display the day of year.
- f) Display the String in Upper case.

Q9. **Consider the table "LOAN" given below:** 3

Acc_No	Acc_Name	Amount	LoanType	Interest
HD101	Sanjeev	55000	Auto	7.65
HD102	Abhishek	300000	Home	7.1
HD103	Shagun	120000	Personal	9.85
HD105	Gunjan	300000	Auto	6.90
HD106	Jyoti	1000000	Business	8.50
HD107	Aarush	1500000	Home	9.10
HD108	Lalit	20000	Auto	6.66
HD109	Smriti	250000	Auto	11.09

- (a) Count the different types of Loan the bank is offering.
- (b) Display the Maximum and Minimum amount of each category of Loan type.
- (c) Display average interest rate of Auto Loan.

Q10. What are the aggregate functions SQL, Explain 2 aggregate function with an example? 3

Section – C
(Each question carries 4 marks)

Q11. Consider the table “Stationary”:

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ICODE	INAME	CATEGORY	QTY	UNITPRICE	STKDATE
444	Drawing Copy	101	110	21	31-JULY-2010
445	Sharpner Camlin	102	235	3	01-AUG-2010
450	Eraser Natraj	101	40	2	17-AUG-2010
452	Gel Pen Montex	103	50	5	30-DEC-2009
457	Geometry box	101	35	45	15-NOV-2009
467	Parker Premium	102	60	205	27-OCT-2009
469	Office File	103	32	25	13-SEP- 2010

Write SQL queries for the following:

- To display the records in decreasing order of price.
- To display category and category wise total quantities of products.
- To display the quantity and its average quantity.
- To display category and category wise lowest price of the product

Q12. Satyam, a database analyst has created the following table worker:-

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WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
001	MONIKA	ARRORA	100000	2014-02-20	HR
002	NIHARIKA	VERMA	80000	2014-06-11	ADMIN
003	VISHAL	SINGHAL	300000	2014-02-20	HR
004	AMITABH	SINGH	500000	2014-02-20	NULL
005	VIVEK	BHATI	NULL	2014-06-11	ADMIN
006	VIPUL	DIWAN	200000	2014-06-11	ACCOUNT
007	SATISH	KUMAR	75000	2014-01-20	ACCOUNT
008	GEETIKA	CHOHAN	90000	2014-04-11	ADMIN

Predict the output of the following SQL queries:

- select sum(salary) from worker where department='admin' and firstname like '%a';
- select max(salary)*12 as Annual salary from worker where department='account';
- select min(joining_date) from worker where salary>80000;
- select length(FIRST_NAME) from worker where DEPARTMENT is NULL;

OR

Consider the following table (Product):

PCode	PName	UPrice	Manufacturer
P01	Washing Powder	120	Surf
P02	Tooth Paste	54	Colgate
P03	Soap	25	Lux
P04	Tooth Paste	65	Pepsodant
P05	Soap	38	Dove
P06	Shampoo	245	Dove

Write the SQL queries for the followings:

- (a) Create the table Product with appropriate data types and constraints.
- (b) Identify the primary key in Product.
- (c) Increase the price by 12 % for all the products manufactured by Dove.
- (d) Add a new column Discount to the table Product.

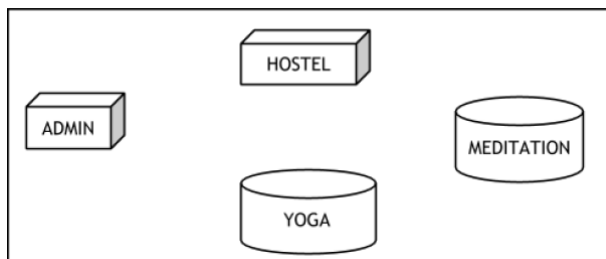
Q13. Evolving World Centre is a charitable trust responsible for providing yoga and meditation training to young and old persons for helping the society to have good health and also spreading peace in the society. The centre is planning to make full use of technology tools and modern gadgets in the centre for 100% utilization of the resources. The centre has four different wings spread out in approximately 20000 square metre of area. The physical distances between these wings and the number of computer systems to be installed in these wings are given as follows. You as a network expert have to answer the queries as raised by their administrators in (i) to (iv). 4

Shortest distances between various wings in metres:

YOGA wing to ADMIN wing	50 meters
YOGA wing to HOSTEL wing	70 meters
YOGA wing to MEDITATION wing	50 meters
ADMIN to HOSTEL wing	60 meters
ADMIN wing to MEDITATION wing	100 meters
HOSTL wing to MEDITATION wing	70 meters

Number of Computers installed at various locations are as follows:

HOSTEL	20
ADMIN	110
MEDITATION	45
YOGA	50



- (a) Suggest the most suitable wing out of the four to install the main server of this centre to get efficient Connectivity.
- (b) Suggest by drawing the best cable layout for effective network connectivity of all the wings of this center.
- (c) Suggest, which device will be best suited for connecting multiple computer systems installed in each of the wings out of the following:
MODEM / Switch / Gateway / Router
- (d) Suggest best communication medium to provide most efficient and effective connectivity between the wings out of the following:
Co-axial cable, Ethernet Cable, Optical Fibre, Single pair Telephone Cable.
