PRE BOARD-2022
CLASS -XII
COMPUTER SCIENCE (Code: 083)

Time: 2 hours   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 7, 8 and 12.

Q. No	Part No.	Section -A Each question carries 2 marks Question	Marks
1		Define data structure. Give any two characteristics of stacks.	2
2	I	Expand the following: TCP/IP FTP	1
	II	What is the advantage and disadvantage of using microwave instead of radio link?	1
3		Differentiate between DDL and DML with respect to databases.	2
4		A resultset is extracted from the database using the cursor object (that has been already created) by giving the following statement. Mydata=cursor.fetchone() (a) How many records will be returned by fetchone() method? (b) What will be the datatype of Mydata object after the given command is executed?	2
5		Write the output of the queries (a) to (d) based on the table, trainer given below: Trainer	2

TID	TNAME	CITY	HIREDATE	SALARY
101	SUNAINA	MUMBAI	15-10-1998	90000
102	ANAMIKA	DELHI	24-12-1994	80000
103	DEEPTI	CHANDIGARH	21-12-2001	82000
104	MEENAKSHI	DELHI	25-12-2002	78000
105	RICHA	MUMBAI	12-01-1996	95000
106	MENIKA	CHENNAI	12-12-2001	69000

    I)   SELECT TID, TNMAE AS "TRAINER NAME" FROM TRAINER WHERE CITY NOT IN ('DELHI', 'MUMBAI');

    II)   SELECT CITY ,COUNT(*) FROM TRAINER GROUP BY CITY HAVING COUNT(*)>=2;

    III)   SELECT(HIREDATE), MAX(SALARY), MIN (CITY) FROM TRAINER;

    IV)   SELECT COUNT(DISTINCT CITY) FROM TRAINER;

Q. No	Part No.	Question	Marks
6	I	Which command is used to view the list of tables in a database?	1
	II	Give one point of difference between an equi-join and a natural join.	1
7		In a database there are two tables 'cd' and type as shown below: Table: CD Table: TYPE	2

Table: CD

Code	Title	Duration	Singer	category
101	Sufi songs	50 min	Zaki faiz	12
102	Eureka	45 min	Shyama mukherjee	12
103	Nagmey	23 min	Sonvi kumar	77
104	dosti	35 min	Bobby	1

Table: TYPE

Category	description
1	Jazz
12	Classical
40	Country side
78	Pop

    i)   Identify the primary key and the foreign key in the CD table.

    ii)   Check every value in CATEGORY column of both the tables. Do you find any discrepancy? State the discrepancy.

OR

Consider the tables given below:

Company

Compid	compname	compho
1	Titan	Okhla
2	Maxima	shahdara
3	Ajanta	najafgrah

model

Modelid	compid	modelcost
T020	1	2200
A167	3	800
T024	1	1200

Write the result of natural join of the above two given tables.

SECTION – B
Each question carries 3 mark

8 Write a program to create a Stack of Student records contains Roll, Name and Percentage mark. Perform the following:
a. Display the details of Second Topper Student
b. Insert a new Record to a Stack
c. Remove the student details scored less than 90% and display Stack | **3**

OR

Alam has a list containing 10 integers. You need to help him create a program with separate user defined functions to perform the following operations based on this list.
● Traverse the content of the list and push the even numbers into a stack.
● Pop and display the content of the stack.
 For Example:
If the sample Content of the list is as follows: N=[12, 13, 34, 56, 21, 79, 98, 22, 35, 38]
Sample Output of the code should be: 38 22 98 56 34 12

9 | I | Write down the command to extract some data from the table Members present in the database 'Society' using Python and MYSQL interface. | **2**

| II | What is the use of GROUP BY clause? How are they useful? | **1**

10 Observe the table 'Club' given below: | **3**

Member_id	Member_name	Address	Age	Fee
M001	Sumit	New Delhi	20	2000
M002	Amit	Punjab	23	2100
M003	Sachin	Mumbai	23	2000
M004	Ayushi	Faridabad	22	2200

a. Identify the attribute best suitable to be declared as a primary key as well as foreign key.
b. What is the cardinality and degree of the above given table?
c. If a new column contact_no has been added and three more members have joined the club then how these changes will affect the degree and cardinality of the above given table.

Section-C
(Each question carries 4 marks from question no. 11 to 13)

11 Write SQL commands for the following queries (i) to (iv) based on the relations Shoppe and Accessories given below: | **4**

Table: shoppe

ID	SNAME	AREA
S001	ABC Computeronics	CP
S002	All Infotech media	GK II
S003	Tech shoppe	CP
S004	Geeks tecno soft	Nehru Place
S005	Hitech Tech Store	Nehru Place

Table: Accessories

No	Name	Price	ID
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	Hard Disk	4500	S03

(i)   To display name and price of all the accessories in ascending order of their price.

(ii)   To display id and sname of all shoppe located in nehru place.

(iii)   To display minimum and maximum price of each name of accessories.

(iv)   To display name, price of all accessories and their respective sname where they are available

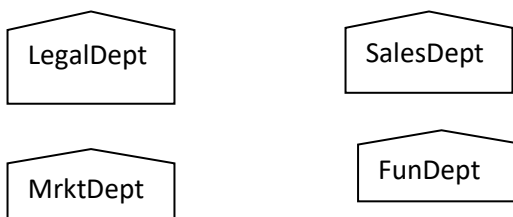| 12	I	What do you mean by web browser and web server? Explain with examples.	2
	II	What do you mean by IP address? How is it useful in Computer Security?	2
		Or	
	I	What are bridges? How do they differ from repeaters?	
	II	What is a communication channel? What choices do you have while choosing a communication channel for a network?	
13		SunRise Pvt. Ltd. is setting up the network in Ahmedabad. There are four departments—MrktDept, FunDept, LegalDept, SalesDept.	4

Distance between various buildings is as under:

MrktDept to funDept	80 m
MrktDept to legalDept	180 m
MrktDept to salesDept	100 m
LegalDept to SalesDept	150 m
LegalDept to funDept	100 m
FunDept to salesDept	50 m

Number of computers in the buildings is as under:

MrktDept	20
LegalDept	10
FunDept	08
SalesDept	42

i.   Suggest the network type between the Departments and specify topology.

ii.   Suggest the most suitable building to place the server with a suitable reason.

iii.   Suggest the placement of (i) modem, (ii) Hub/Switch in the network.

iv.   The organization is planning to link its sale counters situated in various parts of the same city. Which type of network out of LAN, WAN, MAN will be formed? Justify.