

Pratap Public School, Karnal

Pre-Board Examination (2021-2022)

Class - XII

Subject- Computer Science (083)

Time : 2 Hours

M.M :35

General Instructions

- 1 The question paper is divided into 3 sections – A, B and C
- 2 Section A, consists of 7 questions (1-7). Each question carries 2 marks.
- 3 Section B, consists of 3 questions (8-10). Each question carries 3 marks.
- 4 Section C, consists of 3 questions (11-13). Each question carries 4 marks.
- 5 Internal choices have been given for question numbers 7, 8 and 12.

Section – A Each Question Carries 2 Mark

1	Write any two applications of STACK.	2																																																				
2	(i) Expand (i) GSM (ii) DHTML (ii) Write any two wired and wireless transmission medium.	2																																																				
3	What are constraints? Write any four constraints.	2																																																				
4	Explain the difference between fetchall(), fetchone() and fetchmany() function when we connect SQL with Python.	2																																																				
5	Write the outputs of the SQL queries (i) to (iii) based on the relations PERSONAL and DETAILS. <table border="0"><tr><td style="text-align: center;"><u>RELATION: PERSONAL</u></td><td style="text-align: center;"><u>RELATION:DETAILS</u></td></tr><tr><td><table border="1"><thead><tr><th>INO</th><th>PNAME</th><th>ADDRESS</th></tr></thead><tbody><tr><td>501</td><td>RAM</td><td>CHENNAI</td></tr><tr><td>502</td><td>SHAM</td><td>BANGALORE</td></tr><tr><td>503</td><td>AJAY</td><td>CHENNAI</td></tr><tr><td>504</td><td>GAGAN</td><td>DELHI</td></tr><tr><td>505</td><td>DEEPAK</td><td>HYDERABAD</td></tr></tbody></table></td><td><table border="1"><thead><tr><th>DNO</th><th>INO</th><th>AMOUNT</th><th>TYPE</th><th>DOT</th></tr></thead><tbody><tr><td>D001</td><td>501</td><td>2500</td><td>Withdraw</td><td>2017-12-21</td></tr><tr><td>D002</td><td>503</td><td>3000</td><td>Deposit</td><td>2017-06-01</td></tr><tr><td>D003</td><td>502</td><td>2000</td><td>Withdraw</td><td>2017-05-12</td></tr><tr><td>D004</td><td>503</td><td>1000</td><td>Deposit</td><td>2017-10-22</td></tr><tr><td>D005</td><td>502</td><td>12000</td><td>Deposit</td><td>2017-11-06</td></tr></tbody></table></td></tr></table> <ol style="list-style-type: none">1. SELECT INO,PNAME FROM PERSONAL WHERE ADDRESS NOT IN("CHENNAI")2. SELECT INO,COUNT(*),MIN(AMOUNT) FROM DETAILS GROUP BY INO HAVING COUNT(*)>13. SELECT MAX(DOT) FROM DETAILS WHERE TYPE="Deposit";4. SELECT PERSONAL.PNAME, PERSONAL.ADDRESS, DETAILS.DOT FROM PERSONAL,DETAILS WHERE PERSONAL.INO =DETAILS.INO	<u>RELATION: PERSONAL</u>	<u>RELATION:DETAILS</u>	<table border="1"><thead><tr><th>INO</th><th>PNAME</th><th>ADDRESS</th></tr></thead><tbody><tr><td>501</td><td>RAM</td><td>CHENNAI</td></tr><tr><td>502</td><td>SHAM</td><td>BANGALORE</td></tr><tr><td>503</td><td>AJAY</td><td>CHENNAI</td></tr><tr><td>504</td><td>GAGAN</td><td>DELHI</td></tr><tr><td>505</td><td>DEEPAK</td><td>HYDERABAD</td></tr></tbody></table>	INO	PNAME	ADDRESS	501	RAM	CHENNAI	502	SHAM	BANGALORE	503	AJAY	CHENNAI	504	GAGAN	DELHI	505	DEEPAK	HYDERABAD	<table border="1"><thead><tr><th>DNO</th><th>INO</th><th>AMOUNT</th><th>TYPE</th><th>DOT</th></tr></thead><tbody><tr><td>D001</td><td>501</td><td>2500</td><td>Withdraw</td><td>2017-12-21</td></tr><tr><td>D002</td><td>503</td><td>3000</td><td>Deposit</td><td>2017-06-01</td></tr><tr><td>D003</td><td>502</td><td>2000</td><td>Withdraw</td><td>2017-05-12</td></tr><tr><td>D004</td><td>503</td><td>1000</td><td>Deposit</td><td>2017-10-22</td></tr><tr><td>D005</td><td>502</td><td>12000</td><td>Deposit</td><td>2017-11-06</td></tr></tbody></table>	DNO	INO	AMOUNT	TYPE	DOT	D001	501	2500	Withdraw	2017-12-21	D002	503	3000	Deposit	2017-06-01	D003	502	2000	Withdraw	2017-05-12	D004	503	1000	Deposit	2017-10-22	D005	502	12000	Deposit	2017-11-06	2
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6	<p>(i) Which command is used to see the structure of the table in a particular database.</p> <p>(ii) What do you mean by Cartesian Product of two tables. Explain with example.</p>	2
7	<p>Define any two with example (i) Domain (ii) Tuple (iii) Attribute</p> <p>OR</p> <p>Define with suitable example (i) Alternate Key (ii) Foreign Key</p>	2

SECTION-B

Each Question Carries 3 Marks

8	<p>Write a function in Python PUSH(Arr) where Arr is the list of numbers. From the list push all numbers divisible by 5 and 20 into a stack implemented by using list. Display the stack if it has one element otherwise display appropriate message.</p> <p align="center">(OR)</p> <p>Write a function POP(Arr), where Arr is a stack implemented by a list of numbers. The function returns the value deleted from the stack.</p>	3
9	<p>(I) A table, STUDENT has been created in a database with the following fields: ROLLNO, NAME, ADDRESS, PHONE. Give the SQL command to add a new field, FNAME(FATHER'S NAME) (of type varchar with maximum length 20 characters) to the STUDENT table.</p> <p>(II) Write any two DDL and DML commands each.</p>	1 2

10	<p>Charu has to create a database named SCHOOL in MYSQL. She now needs to create a table named STUDENT in the database to store the records of all the students. The table STUDENT has the following structure:</p> <p>TABLE : STUDENT</p> <table border="1" data-bbox="159 1702 829 1982"> <thead> <tr> <th>FIELD NAME</th> <th>DATA TYPE</th> <th>REMARKS</th> </tr> </thead> <tbody> <tr> <td>ROLLNO</td> <td>INTEGER</td> <td>PRIMARY KEY</td> </tr> <tr> <td>NAME</td> <td>VARCHAR(20)</td> <td>NOT NULL</td> </tr> <tr> <td>ADDRESS</td> <td>VARCHAR(30)</td> <td></td> </tr> <tr> <td>FEE</td> <td>DECIMAL(10,2)</td> <td></td> </tr> <tr> <td>CLASS</td> <td>VARCHAR(10)</td> <td>NOT NULL</td> </tr> </tbody> </table>	FIELD NAME	DATA TYPE	REMARKS	ROLLNO	INTEGER	PRIMARY KEY	NAME	VARCHAR(20)	NOT NULL	ADDRESS	VARCHAR(30)		FEE	DECIMAL(10,2)		CLASS	VARCHAR(10)	NOT NULL	3
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SECTION-C

Each Question Carries 4 Marks

11 *Jey International School has stored the details of teachers in a table "DATA" of the database "TEACHER".* **4**

Based on the table given answer the queries given below.

Name	Age	Department	Salary	Gender
Jugal	34	Computer	20000	M
Sangeetha	32	Maths	30000	F
Rakesh	42	Maths	25000	M
Shalakha	33	Physics	23000	F
Shyam	50	Physics	32000	M

- a) List the names of teachers who belong to Maths department.
- b) Identify the degree and cardinality of the table.
- c) Display the number of male and female teachers in the school.
- d) Delete the records of teachers whose age is more than 30.

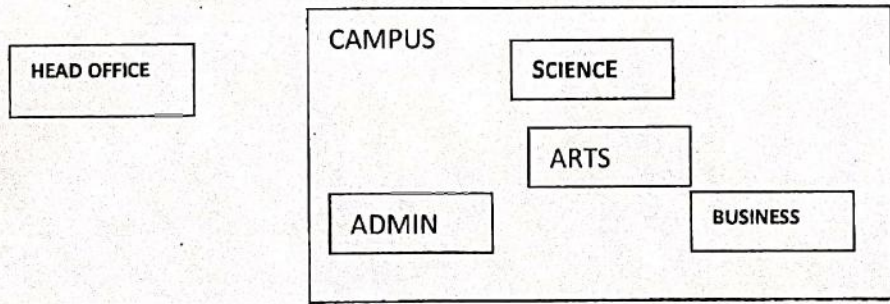
12 *(i) Write any two differences between HTML and XML.* **2**

OR

Define the following terms: Web Server and Web Hosting

(ii) What is URL? Explain different addressing methods to write URL. **2**

13 *Xcelencia Edu Services Ltd. is an educational organisation. It is planning to set up its campus in Hyderabad with its head office at Delhi. The Hyderabad campus has 4 main buildings-ADMIN, SCIENCE, BUSINESS and ARTS. You as a network expert has to suggest the best network related solutions for their problems raised in questions (i) to (iv) keeping in mind the distances between the buildings and other given parameters.* **4**



Shortest distances between various buildings:

ADMIN	to	SCIENCE	65m
ADMIN	to	BUSINESS	100m
ADMIN	to	ARTS	60m
SCIENCE	to	BUSINESS	75m
SCIENCE	to	ARTS	60m
BUSINESS	to	ARTS	50m
DELHI HEAD OFFICE	To	HYDERABAD CAMPUS	1600KM

Number of computers installed at various buildings are as follows:

ADMIN	100
SCIENCE	85
BUSINESS	40
ARTS	12
DELHI Head Office	20

Distances

- 1. Suggest the most appropriate location of the server inside the Hyderabad campus (out of the 4 buildings) to get the best connectivity for maximum number of computers. Justify your answer.**
- 2. Suggest and draw the cable layout to efficiently connect various buildings within the Hyderabad campus for connecting the computers.**
- 3. Which hardware device will you suggest to be procured by the company to be installed to protect and control the Internet uses within the campus?**
- 4. Which of the following will you suggest to establish the online face-face communication between the people in the Admin Office of Hyderabad campus and Delhi Head Office?**
 - a) E-mail**
 - b) Text Chat**
 - b) Video conferencing**
 - d) Cable TV**