

SHETH CN ENGLISH MEDIUM SCHOOL
PRELIM PAPER (Term-2)
Computer Science (083)

STD: XII
Date:- 28/01/2022

Maximum Marks:-35
Time:-2 Hrs

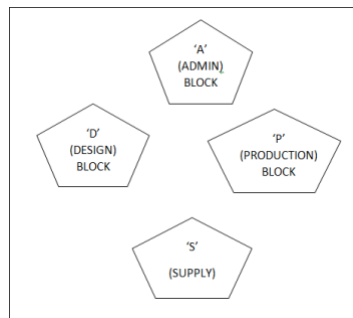
General Instructions

- 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.

| Section -A Each question carries 2 marks | | |
|---|--|--------------|
| Q. No | Question | Marks |
| 1. | Give any two characteristics of Queue. | (2) |
| 2. | (i) Expand the following: SMTP , XML | (1) |
| | (ii) Out of the following, which is the fastest wired and wireless medium of transmission? Infrared, coaxial cable, optical fibre, microwave, Ethernet cable | (1) |
| 3. | Differentiate between int and date data types with respect to databases. | (2) |
| 4. | A result set 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. | <p>Write the output of the queries (a) to (d) based on the table, Grocery given below:</p> <p>Table: Grocery</p> <table border="1"> <thead> <tr> <th>ID</th> <th>NAME</th> <th>DATEOFPURCHASE</th> <th>COST</th> <th>DISCOUNT</th> </tr> </thead> <tbody> <tr> <td>TD01</td> <td>Daal</td> <td>03-Jan-2022</td> <td>1500</td> <td>10</td> </tr> <tr> <td>R10</td> <td>Rice</td> <td>10-Mar-2021</td> <td>1200</td> <td>5</td> </tr> <tr> <td>MD04</td> <td>Moong</td> <td>01-Dec-2021</td> <td>800</td> <td>0</td> </tr> <tr> <td></td> <td>Daal</td> <td></td> <td></td> <td></td> </tr> <tr> <td>M03</td> <td>Maida</td> <td>07-Dec-2021</td> <td>500</td> <td>3</td> </tr> </tbody> </table> <p>(a) SELECT SUM(DISCOUNT) FROM Grocery WHERE COST>1200;</p> <p>(b) SELECT MAX (DATEOFPURCHASE) FROM Grocery;</p> <p>(c) SELECT * FROM grocery WHERE DISCOUNT>5 AND FID LIKE "T%";</p> <p>(d) SELECT DATEOFPURCHASE FROM Grocery WHERE NAME IN ("Daal");</p> | ID | NAME | DATEOFPURCHASE | COST | DISCOUNT | TD01 | Daal | 03-Jan-2022 | 1500 | 10 | R10 | Rice | 10-Mar-2021 | 1200 | 5 | MD04 | Moong | 01-Dec-2021 | 800 | 0 | | Daal | | | | M03 | Maida | 07-Dec-2021 | 500 | 3 | (2) |
|---------|--|----------------|--------|----------------|--------|----------|------|--------|-------------|------|---------|------|--------------|-------------|------|---------|------|--------|-------------|-----|------|------|-------|-------|---|---------|-----|-------|-------------|-----|---|-----|
| ID | NAME | DATEOFPURCHASE | COST | DISCOUNT | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TD01 | Daal | 03-Jan-2022 | 1500 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R10 | Rice | 10-Mar-2021 | 1200 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MD04 | Moong | 01-Dec-2021 | 800 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Daal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M03 | Maida | 07-Dec-2021 | 500 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. | Which command is used to view the details of table created? | (1) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Give one point of difference between an equi-join and a natural join. | (1) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7. | <p>Consider the table, MOVIEDETAILS given below:</p> <p>Table: MOVIEDETAILS</p> <table border="1"> <thead> <tr> <th>MOVIEID</th> <th>TITLE</th> <th>LANGUAGE</th> <th>RATING</th> <th>PLATFORM</th> </tr> </thead> <tbody> <tr> <td>M001</td> <td>Minari</td> <td>Korean</td> <td>5</td> <td>Netflix</td> </tr> <tr> <td>M004</td> <td>MGR Magan</td> <td>Tamil</td> <td>4</td> <td>Hotstar</td> </tr> <tr> <td>M010</td> <td>Kaagaz</td> <td>Hindi</td> <td>3</td> <td>Zee5</td> </tr> <tr> <td>M020</td> <td>Human</td> <td>Hindi</td> <td>4</td> <td>Netflix</td> </tr> </tbody> </table> <p>(a) Identify the degree and cardinality of the table.</p> <p>(b) Which field should be made the primary key? Justify your answer.</p> | MOVIEID | TITLE | LANGUAGE | RATING | PLATFORM | M001 | Minari | Korean | 5 | Netflix | M004 | MGR Magan | Tamil | 4 | Hotstar | M010 | Kaagaz | Hindi | 3 | Zee5 | M020 | Human | Hindi | 4 | Netflix | (2) | | | | | |
| MOVIEID | TITLE | LANGUAGE | RATING | PLATFORM | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M001 | Minari | Korean | 5 | Netflix | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M004 | MGR Magan | Tamil | 4 | Hotstar | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M010 | Kaagaz | Hindi | 3 | Zee5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M020 | Human | Hindi | 4 | Netflix | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| SECTION – B | | | | | | | | | | | | | | |
|--------------------------------------|--|--------|------|--------|------|--------|------|--------|-----|--------|-----|--------|------|-----|
| Each question carries 3 marks | | | | | | | | | | | | | | |
| 8. | <p>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.</p> <ul style="list-style-type: none"> • Traverse the content of the list and push the even numbers into a stack. • Pop and display the content of the stack. <p>For Example: If the sample Content of the list is as follows: N=[12, 13, 34, 56, 21, 79, 98, 22, 35, 38]</p> <p>Sample Output of the code should be: 38 22 98 56 34 12</p> | (3) | | | | | | | | | | | | |
| 9. | <p>(i) A table, Employee has been created in a database with the following fields: EmployeeID, NAME, Age, Salary</p> <p>Give the SQL command to add a new field, Increment (of type Integer) to the Employee table.</p> | (1) | | | | | | | | | | | | |
| | <p>(ii) Categorize following commands into DDL and DML commands? INSERT INTO, DROP TABLE, ALTER TABLE, UPDATE...SET</p> | (2) | | | | | | | | | | | | |
| 10. | Briefly explain the concept of Digital Footprints | (3) | | | | | | | | | | | | |
| Section C | | | | | | | | | | | | | | |
| Each question carries 4 marks | | | | | | | | | | | | | | |
| 11. | <p>(i) Give two advantages and two disadvantages of star topology</p> <p>(ii) Define the following terms: www, web hosting</p> | (2) | | | | | | | | | | | | |
| 12. | <p>“Anutulya Creations”-A start-up fashion house has set up its main centre at Kanpur, Uttar Pradesh for its dress designing, production and dress supplying activities. It has 4 blocks of buildings. Distance between the various blocks is as follows: A to D</p> <table style="margin-left: 20px;"> <tr><td>A to P</td><td>50 m</td></tr> <tr><td>A to S</td><td>60 m</td></tr> <tr><td>A to D</td><td>110m</td></tr> <tr><td>D to S</td><td>60m</td></tr> <tr><td>P to S</td><td>50m</td></tr> <tr><td>P to D</td><td>150m</td></tr> </table> <p>Numbers of computers in each block Block A – 20 Block D - 80</p> | A to P | 50 m | A to S | 60 m | A to D | 110m | D to S | 60m | P to S | 50m | P to D | 150m | (4) |
| A to P | 50 m | | | | | | | | | | | | | |
| A to S | 60 m | | | | | | | | | | | | | |
| A to D | 110m | | | | | | | | | | | | | |
| D to S | 60m | | | | | | | | | | | | | |
| P to S | 50m | | | | | | | | | | | | | |
| P to D | 150m | | | | | | | | | | | | | |



Block P - 15

Block S - 8

Based on the above specifications, answer the following questions:

(a) Out of LAN, WAN and MAN, what type of network will be formed if we interconnect different computers of the campus? Justify.

(b) Suggest the topology which should be used to efficiently connect various blocks of buildings within Kanpur centre for fast communication.

Also draw the cable layout for the same.

(c) Suggest the placement of the following device with justification

i. Repeater

ii. Hub/Switch

(d) Now a day, video-conferencing software is being used frequently by the company to discuss the product details with the clients. Name any one video conferencing software.

Also mention the protocol which is used internally in video conferencing software.

13.

Carefully observe the following table named 'stock':

(4)

Table: stock

| Pid | PName | Category | Qty | Price |
|-----|-------------|----------|-----|-------|
| 1 | Keyboard | IO | 15 | 450 |
| 2 | Mouse | IO | 10 | 350 |
| 3 | Wifi-router | NW | 5 | 2600 |
| 4 | Switch | NW | 3 | 3000 |
| 5 | Monitor | O | 10 | 4500 |
| 6 | Printer | O | 4 | 17000 |

Write SQL queries for the following:

(a) To display the records in decreasing order of price.

(b) To display category and category wise total quantities of products.

(c) To display the category and its average price.

(d) To display category and category wise highest price of the products.

