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**PB-T2/CSQP/1221/B 21-APR-2022**

**PRE-BOARD EXAMINATION 2021-22**

**Subject: Computer Science (083)**  Max. Marks: 35

**Grade: XII** Time: 2 Hrs.

General instructions:

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

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|  | **SECTION A**  **Each Question carries 2 Marks** |  |
| Q.No | Questions | Marks |
|  | Name two basic operations performed on stack and the feature of stack | (2) |
|  | Expand the following  HTTPS , XML | (1) |
|  | Rearrange the following terms in increasing order of data transfer rates:  Gbps ,Mbps ,Tbps ,Kbps ,Bps | (1) |
|  | Differentiate between fetchone() and fetchall() | (2) |
|  | In the following connection string, Identify the elements:  Connect(………..=’local host’,…………=’root’) | (2) |
|  | Write the output of the queries(a) to (d)based on the table ACTIVITY.  **Table : ACTIVITY**     |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **ACode** | **Activity name** | **Stadium** | **ParticipantsNum** | **PrizeMoney** | **ScheduleDate** | | 1001 | Relay 100x4 | Star Annex | 16 | 10000 | 23-jan-2004 | | 1002 | High Jump | Star Annex | 10 | 12000 | 12-dec-2003 | | 1003 | Shot Put | Super Power | 12 | 8000 | 14-feb-2004 | | 1005 | Long Jump | Star Annex | 12 | 9000 | 01-jan-2004 | | 1008 | Discuss Throw | Super Power | 10 | 15000 | 19-mar-204 |  1. SELECT COUNT (DISTINCT ParticipantsNum) FROM ACTIVITY; 2. SELECT MAX(ScheduleDate), MIN(ScheduleDate) FROM ACTIVITY; 3. SELECT SUM(PrizeMoney) from ACTIVITY where Stadium=’Star Annex’; 4. SELECT Acode from ACTIVITY ORDER BY Acode DESC; | (2) |
|  | a) Which clause is used for grouping? | (1) |
|  | b) What do you mean by primary key. Give suitable example of Primary Key | (1) |
|  | |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Book\_ID** | **Title** | **Author** | **Publisher** | **Price** | | 1001 | The Leader who had no title | Robin Sharma | PHI | 500 | | 1002 | You Can Win | Shiv Kheda | TMH | 253 | | 1003 | Rich Dad Poor Dad | Robert T. Kiyosaki | PHI | 564 | | 1004 | Success Through a Positive Mental Attitude | Napoleon Hill | Penguin | 522 | | 1005 | Fear Not, Dream Big, & Execute | Jeff Meyer | MCH | 845 | | 1006 | Leadership: The Art of Inspiring People to Be Their Best | Craig B. Whelden | Penguin | 542 |   Consider the table, **BOOKS** given below | (2) |
|  | 1. Identify the attribute best suitable to be declared as a primary key. |  |
|  | 1. Write the degree and cardinality of the table **BOOKS**. |  |
|  | OR   1. Identify candidate key(s) from the table **BOOKS** 2. What do you understand by foreign key. |  |
|  | **SECTION B**  **Each question carries 3 Marks** |  |
| 8. | Write a function in Python PUSH (Lst), where Lst is a list of numbers. From this list push all numbers not divisible by 6 into a stack implemented by using a list. Display the stack if it has at least one element, otherwise display appropriate error message.  OR  Write a function in Python POP(Lst), where Lst is a stack implemented by a list of numbers. The function returns the value deleted from the stack. | (3) |
| 9 | Write SQL command to insert the following data into the table **BOOKS**.  Book\_ID= 2010, Title= “A Book of Comp. Sc.”, Author= “Praveen Sharma” and Price = 625 | (1) |
|  | Which of the following is/ are DML and DDL command(s)?  a) SELECT b) ALTER c) DROP d) UPDATE | (2) |
| 10 | Prachi has created a database named SCHOOL in MYSQL.She now needs to create a table TEACHER in the database to store the records of various teachers.The table TEACHER has the following structure.  Table : TEACHER   |  |  |  | | --- | --- | --- | | Field Name | Data Type | Remarks | | Teacher code | Char(5) | Primary key | | Teacher Name | Char(30) |  | | Subject | Char(20) |  | | Salary | Integer |  |   Help her to complete the task by suggesting proper SQL Commands. | (3) |
|  | **SECTION C**  **Each question carries 4 Marks** |  |
| 11 | Write SQL queries for (i) to (iv) and find outputs for SQL queries (v) to (viii), which are based on the tables.(8)  **TRAINER**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **TID** | **TNAME** | **CITY** | **HIREDATE** | **SALARY** | | 101 | Sunaina | Mumbai | 1998-10-15 | 90000 | | 102 | Anamika | Delhi | 1994-12-24 | 80000 | | 103 | Deepti | Chandigarh | 2001-12-21 | 82000 | | 104 | Meenakshi | Delhi | 2002-12-25 | 78000 | | 105 | Richa | Mumbai | 1996-01-12 | 95000 | | 106 | ManiPrabha | Chennai | 2001-12-12 | 69000 |     **COURSE**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **CID** | **CNAME** | **FEES** | **STARTDATE** | **TID** | | C201 | AGDCA | 12000 | 2018-07-02 | 101 | | C202 | ADCA | 15000 | 2018-07-15 | 103 | | C203 | DCA | 10000 | 2018-10-01 | 102 | | C204 | DDTP | 9000 | 2018-09-15 | 104 | | C205 | DHN | 20000 | 2018-08-01 | 101 | | C206 | O’LEVEL | 18000 | 2018-07-25 | 105 |  1. Display the Trainer Name, City & Salary in descending order of their Hiredate. 2. To display the TNAME and CITY of Trainer who joined the Institute in the month of December 2001. 3. To display TNAME, HIREDATE, CNAME, STARTDATE from tables TRAINER and COURSE of all those courses whose FEES is less than or equal to 10000. 4. To display number of Trainers from each city. | (4) |
| 12 | Give two advantages of Computer Network  OR  Define the following terms  URL , Website | (2) |
|  | How is LAN different from WAN? | (2) |
| 13 | Sanskar University of Himachal Pradesh is setting up a secured network for its campus at Himachal Pradesh for operating their day-to-day office & web based activities. They are planning to have network connectivity between four buildings. Answer the question (i) to (iv) after going through the building positions in the campus & other details which are given below:          Shortest distance between various Buildings   |  |  | | --- | --- | | Main to Admin | 50m | | Main to Finance | 100m | | Main to Academic | 70m | | Admin to Finance | 50m | | Finance to Academic | 70m | | Admin to Academic | 60m |   Number of computers:-   |  |  | | --- | --- | | Campus | No. of Computers | | Main | 150 | | Admin | 75 | | Finance | 50 | | Academic | 60 |   As a network expert, you are required to give best possible solutions for the given queries of the university administration:-  (a) Suggest cable layout for the connections between the various buildings,  (b) Suggest the most suitable building to house the server of the network of the university,  (c) Suggest the placement of following devices with justification:  1. Switch/Hub 2. Repeater  (d) Suggest the technology out of the following for setting-up very fast Internet connectivity among buildings of the university  1. Optical Fibre 2. Coaxial cable 3. Ethernet Cable | (4) |

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