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| **PB1/CSQP/1223/B 23-NOV-2023** | | | | | | | | | | | | | | | |
| **PREBORAD EXAMINATION I -( 2023-24)** | | | | | | | | | | | | | | | |
| **Subject: COMPUTER SC (083)**  **Grade: XII** | | | | | | Max. Marks: 70Time: 3 Hrs | | | | | | | | | |
| General Instructions:This question paper consists of five sections A, B, C, D and E. Each part is compulsory.Section A – consists of 18 questions. Each question carries 1 mark.  1. Section B – consists of 7 questions . Each question carries 2 marks. 2. Section C – consists of 5 questions. Each question carries 3 marks. 3. Section D – consists of 2 questions. Each question carries 4 marks. 4. Section E – consists of 3 questions. Each question carries 5 marks. 5. The question paper has 10 printed pages. 6. All programming questions are to be answered using Python Language only. | | | | | | | | | | | | | | | |
| **Qno** | **SECTION A** | | | | | | | | | | | | | | Mark |
| **1.** | State True or False:  The explicit conversion of an operand is when the programming language updates a datatype to another type without programmers’ intervention. | | | | | | | | | | | | | | **1** |
| **2.** | The tuple values in a table can be changed to a particular value using the \_\_\_\_\_\_\_\_\_\_ command. | | | | | | | | | | | | | | **1** |
|  | **a.** | | Alter | | | **b.** | | | | | | Delete | | |  |
|  | **c.** | | Update | | | **d.** | | | | | | Modify | | |  |
| **3.** | What will be the output of the following expression:  3//2\*5+10%9//8 | | | | | | | | | | | | | | **1** |
|  | **a.** | | 0 | | | **b.** | | | | | | 5 | | |  |
|  | **c.** | | 10 | | | **d.** | | | | | | 3 | | |  |
| **4.** | What will be the output of the following code:  st="The number 101011 is Binary"  st=st.split('1')  st=st[0]+"$$"+st[1]+"$$"+st[3]  print(st) | | | | | | | | | | | | | | **1** |
|  | **a.** | | The number $$0$$ | | | **b.** | | | | | | The $$number $$0 | | |  |
|  | **c.** | | The number $$00$$ | | | **d.** | | | | | | The $$0$$ 11 | | |  |
| **5.** | Consider the following statement:  SELECT \* FROM product ORDER BY rate \_\_\_\_\_\_\_\_, item\_name \_\_\_\_\_\_ ;  Which of the following option should be used to display the ‘rate’ from greater to smaller and ‘name’ in alphabetical order? | | | | | | | | | | | | | | **1** |
|  | **a.** | ASC, DESC | | | | | | **b.** | | | | | DESC,ASC | |  |
|  | **c.** | Ascending,Descending | | | | | | **d.** | | | | | Descending, Ascending | |  |
| **6.** | Fill in the blank  A network with all client computers and no server is called\_\_\_\_\_\_\_. | | | | | | | | | | | | | | **1** |
|  | **a.** | | Networking | | | **b.** | | | | | | Peer to Peer network | | |  |
|  | **c.** | | Client Server network | | | **d.** | | | | | | Distributed network | | |  |
| **7.** | Given the following dictionaries  dict\_exam={"Exam":"AISSCE", "Year":2023}  dict\_result={"Total":500, "Pass\_Marks":165}  Which statement will merge the contents of both dictionaries? | | | | | | | | | | | | | | **1** |
|  | **a.** | | dict\_exam.update(dict\_result) | | | **b.** | | | | | | dict\_exam + dict\_result | | |  |
|  | **c.** | | dict\_exam.add(dict\_result) | | | **d.** | | | | | | dict\_exam.merge(dict\_result) | | |  |
| **8.** | What will be the output of the following code?  >>> li=[67,"abc",90,70,["hello","bye"]]  >>> li[ : :-2] | | | | | | | | | | | | | | **1** |
| **9.** | Which of the following statement(s) would give an error after executing the following code? | | | | | | | | | | | | | | **1** |
|  | **a.** | | Statement 3 | | | **b.** | | | | | | Statement 4 | | |  |
|  | **c.** | | Statement 5 | | | **d.** | | | | | | Statement 4 and 5 | | |  |
| **10.** | What are the possible outcome(s) if the following code is execute :    If following can be the possible outcomes choose the correct option: | | | | | | | | | | | | | | **1** |
|  | **a.** | | i and ii | | | **b.** | | | | | | i and iv | | |  |
|  | **c.** | | iii and iv | | | **d.** | | | | | | i and iii | | |  |
| **11.** | When we connect our mobile with Laptop then we call it | | | | | | | | | | | | | | **1** |
|  | **a.** | | LAN | | | **b.** | | | | | | PAN | | |  |
|  | **c.** | | WAN | | | **d.** | | | | | | MAN | | |  |
| **12.** | The output of the following code will be: | | | | | | | | | | | | | | **1** |
|  | **a.** | Error | | | | | | | **b.** | | | | | 5 20 5 4 20 |  |
|  | **c.** | 4 20 5 4 10 | | | | | | | **d.** | | | | | 5 20 5 4 10 |  |
| **13.** | Which of the following blocks is a ‘must-execute’ block ? | | | | | | | | | | | | | | **1** |
|  | **a.** | | try | | | | **b.** | | | | except | | | |  |
|  | **c.** | | finally | | | | **d.** | | | | else | | | |  |
| **14.** | An Alternate key can be defined as: | | | | | | | | | | | | | | **1** |
|  | **a.** | | | An attribute which is a primary key | **b.** | | | | | An attribute which is not a primary key | | | | |  |
|  | **c.** | | | A candidate key which is not a primary key | **d.** | | | | | A primary key attribute of another table present in existing table | | | | |  |
| **15.** | What will be the output of the following Python code?  myFile = None  for i in range (8):  with open("data.txt", "w") as myFile:  if i > 5:  break  print(myFile.closed) | | | | | | | | | | | | | | **1** |
|  | **a.** | | True | | | **b.** | | | | | | False | | |  |
|  | **c.** | | None | | | **d.** | | | | | | Error | | |  |
| **16.** | Fill in the blank:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a device, which is used to connect dissimilar networks and perform the necessary translation so that the connected networks can communicate properly. | | | | | | | | | | | | | | **1** |
|  | Assertion and Reason:  In the following questions, A statement of **Assertion (A)** is followed by a statement of **Reason (R) .** Mark the correct choice as.  **(a)** Both A and R are true and R is the correct explanation of A.  **(b)** Both A and R are true and R is not correct explanation of A.  **(c)** A is true but R is false.  **(d)** A is false but R is true. | | | | | | | | | | | | | |  |
| **17.** | **Assertion (A):** A function is a block of organized and reusable code that is used to perform a single, related action.  **Reason (R):** Function provides better modularity for your application and a high degree of code reusability. | | | | | | | | | | | | | | **1** |
| **18.** | **Assertion (A):** CSV stands for comma separated value.  **Reason (R) :** CSV files are a common file format for transferring and storing data. | | | | | | | | | | | | | | **1** |
|  | **SECTION B** | | | | | | | | | | | | | |  |
| **19.** | a. Expand the following abbreviations:  i) NIC ii) MAC  b. What is the circuit switching?  **OR**  a. Mention one advantage and one disadvantage of Star Topology.  b. Differentiate between switch and hub. | | | | | | | | | | | | | | **2** |
| **20.** | Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code.  Value=30  for val in range(0,Value):  if val%4=0:  print (val\*4)  else if val%5==0:  print (val+3)  else  print(val+10) | | | | | | | | | | | | | | **2** |
| **21.** | Write a function vowel\_less(li) which accepts a list of words as parameter and displays the words which are without vowels.  For example, consider the list :  li=[‘Word’,’List’,’Fly’,’Gym’]  The output should be:  Fly  Gym | | | | | | | | | | | | | | **2** |
| **22.** | Find the ouput of the following code: | | | | | | | | | | | | | | **2** |
| **23.** | Write the Python statement for each of the following tasks using BUILT-IN functions/methods only:   1. To delete an element 67 from the list L1. 2. To check and get the position of word ‘pi’ in string named, text.   OR  **Write a program in python to find the standard deviation( using built in function) of a list CricketScore using import and required module.** | | | | | | | | | | | | | | **2** |
| **24.** | Ms. Sarika has just created a table named “Customer” containing columns Cname, City and Billing. After creating the table, she realized that she has forgotten to add a primary key column in the table. Help her in writing an SQL command to add a primary key column Ccode of integer type to the table Customer. Thereafter, write the command to insert the following record in the table:  Ccode- 989  Cname- Fatime  City- New Delhi  Billing- 3400  **OR**  Thomas is working on a database named Employee, in which he has created a table named “EmpDetail” containing columns EmpId, EName, Salary and Category. After creating the table, he realized that the attribute, Category has to be deleted from the table and a new attribute Department of data type string has to be added. This attribute Department cannot be left blank. Help Thomas write the commands to complete both the tasks. | | | | | | | | | | | | | | **2** |
| **25.** | Predict the output of the following code: | | | | | | | | | | | | | | **2** |
|  | **SECTION C** | | | | | | | | | | | | | |  |
| **26.** | **Find the output of the following code:** | | | | | | | | | | | | | | **3** |
| **27.** | Write output of the queries (a) to (c) based on the table Sportsclub.  Table Name: Sportsclub    a. SELECT DISTINCT sports FROM Sportsclub;  b. SELECT sports, MAX(salary) FROM Sportsclub GROUP BY sports HAVING sports<>'SNOOKER';  c. SELECT pname, sports, salary FROM Sportsclub WHERE country='INDIA' ORDER BY salary DESC; | | | | | | | | | | | | | | **3** |
| **28.** | A pre-existing text file data.txt has some words written in it. Write a python function copywords() that will copy all the words that are having length greater than 3 to text file Newdata.txt .    **Example:** For the file content of data.txt:  A man always wants to strive higher in his life  He wants to be perfect  **After executing** copywords() the content of Newdata.txt will be:  Always wants strive higher life wants perfect  **OR**  Write a program with function filter that copies text file “source.txt” onto “target.txt” barring the lines starting with a “@” sign .The file “source.txt” and “target.txt” to be passed as parameters to the function filter. | | | | | | | | | | | | | | **3** |
| **29.** | Tarun created the following table in MySQL to maintain stock for the items he has.    Based on the above table answer the following questions.   1. Identify the primary key in the table with valid justification. 2. Write a query to increase the stock for all products by 20 whose company is Parley. 3. Write a query to delete all the rows from the table which are not having any rating. | | | | | | | | | | | | | | **3** |
| **30.** | A dictionary contains the names of some cities and their population in crore.   1. Write python function **push(stack, data) ,** that accepts an empty list, which is the stack and data, which is the dictionary and pushes the names of those countries onto the stack whose population is greater than 25 crores. 2. Write python function **pop(stack)** which displays all the elements of stack and display stack empty once all items are popped.   For example : The data is having the contents  {'India':140, 'USA':50, 'Russia':25, 'Japan':10}  then the execution of the function push() the stack will be:  [India ,USA]  **After executing the function pop() the output:**  **USA**  **India**  **Stack empty** | | | | | | | | | | | | | | **3** |
|  | **SECTION D** | | | | | | | | | | | | | |  |
| **31.** | Write SQL Commands for the following queries based on the relations PRODUCT and CLIENT given below. | | | | | | | | | | | | | | **4** |
|  | 1. Display the Client Name and City of all Mumbai- and Delhi-based clients in Client table. 2. Display the count of each Manufacturer of products. 3. Display the Product Name, Manufacturer, Expiry Date of all the products that expired on or before ‘2010-12-31’. 4. Display P\_ID, Client Name, City of all the clients (including the ones that have not purchased a product) and their corresponding ProductName sold. | | | | | | | | | | | | | |  |
| **32.** | Sudheer is a python programmer who wants to create a CSV file ‘Record.csv’ help him write the user defined functions in python that defines:   1. ADD() – To accept and add data of an employee to a CSV file ‘Record.csv’. Each record consists of a list with field elements:   [empid, name, mobile, salary ]  to store employee id, employee name, employee mobile number and employee salary respectively. Also add the heading of the each column.   1. COUNTR() – To return the count the number of employees having salary more than 10000 present in the CSV file named ‘Record.csv’. | | | | | | | | | | | | | | **4** |
|  | **SECTION E** | | | | | | | | | | | | | |  |
| **33.** | Galaxy Provider Ltd. is planning to connect its office in Texas, USA with its branch in Mumbai. The Mumbai branch has 3 Offices in three blocks located at some distance from each other for different operations - ADMIN, SALES and ACCOUNTS. 4 As a network consultant, suggest the best network related solutions for the issues/problems raised in (a) to (e), keeping in mind the distances between various locations and other given parameters. Layout of the Offices in the Mumbai branch :  **`**  Shortest distances between various locations:   |  |  | | --- | --- | | ADMIN block to SALES Block | 300 m | | SALES Block to ACCOUNTS Block | 175 m | | ADMIN Block to ACCOUNTS Block | 350 m | | MUMBAI Branch to TEXAS Head Office | 14000 km |   Number of Computers installed at various locations are as follows:   |  |  | | --- | --- | | ADMIN Block | 225 | | ACCOUNTS Block | 75 | | SALES Block | 30 | | TEXAS Head Office | 90 |  1. Suggest and draw the cable layout (block to block) to efficiently connect the three offices of the Mumbai branch. 2. Suggest the block that is ideal to place the server in the Mumbai office. 3. Suggest the placement of the following devices in Mumbai office blocks with appropriate reasons:   i. Switch / Hub ii. Repeater  d. Suggest the protocol that shall be needed to provide Video Conferencing solution  between Texas Head Office and Mumbai Branch.  e. Suggest a device/software to be installed in the Kashipur Campus to take care of data  security. . | | | | | | | | | | | | | | **5** |
| **34.** | a. Differentiate between text file and binary files.  b. Consider a file, Employee.DAT, containing records of the following structure:  [Empid,EmpName,Department, Salary]  Write a function, HRData(), that reads contents from the file Employee.DAT and copies the records with department name as “HR” to the file named HR.DAT. The function should return the total number of records copied to the file HR.DAT.  **OR**   1. Differentiate between absolute path and relative path of filenames. 2. A Binary file, STUDENT.DAT has the following structure:   {SNUM:[SNAME,SGRADE]}  Where:  SNUM– Student Number  SNAME – Student Name  SGRADE is Class and Section  Write a user defined function, findStudent(SGrade), that accepts student name as parameter and displays all the records from the binary file STUDENT.DAT, who are studying in that grade. | | | | | | | | | | | | | | **5**  2+3 |
| **35.** | a. Differentiate between count() and count(\*) functions in SQL with appropriate example.  b. Radhika wants to write a python program that inserts the following record in the table Student in database school:  RollNo – integer  Name – string  Clas – integer  Marks – integer  Note the following to establish connectivity between Python and MYSQL:  ● Username is root  ● Password is tiger  ● The table exists in a MYSQL database named school.  The details (RollNo, Name, Class and Marks) are to be accepted from the user. Help Kabir to write the program in Python.  **OR**  a. Explain the constraint unique and primary key.  b. Nitin wants to make a python code that reads the record from the table named student and displays only those records who have marks greater than 75:  RollNo – integer  Name – string  Clas – integer  Marks – integer  He wants to establish connectivity between Python and MYSQL. The details are:  • Username is root  • Password is tiger  • The table exists in a MYSQL database named school.  Write the program to help Nitin. | | | | | | | | | | | | | | **5**  1+4 |

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