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| **UT/CSQP/1223/A 09-NOV-2023** | | | | | |
| **UNIT TEST (2023-24)** | | | | | |
| **Subject: COMPUTER SC (083)**  **Grade: XII** | | | Max. Marks: 50Time: 2 Hrs 30 Mins | | |
| General Instructions:This question paper consists of five sections A, B, C, D and E. Each part is compulsory.Section A – consists of 10 questions. Each question carries 1 mark.  1. Section B – consists of 5 questions . Each question carries 2 marks. 2. Section C – consists of 4 questions. Each question carries 3 marks. 3. Section D – consists of 2 questions. Each question carries 4 marks. 4. Section E – consists of 2 questions. Each question carries 5 marks. 5. The question paper has 6 printed pages. 6. All programming questions are to be answered using Python Language only. | | | | | |
| **Qno** | **SECTION A** | | | | Mark |
| **1.** | State True or False:  Primary key is chosen from the candidate keys in a relation in a database. | | | | **1** |
|  | Consider the table Student and Sport and answer question 2 to 4 based on the tables. | | | |  |
| **2.** | What will be the degree and cardinality of the join of the following query on student and sport:  SELECT NAME,COACHNAME,GAME FROM STUDENTS,SPORTS WHERE CLASS LIKE ‘12%’ AND STUDENTS.ADMNO=SPORTS.ADMNO; | | | | **1** |
|  | **a.** | 10,3 | **b.** | 3,2 |  |
|  | **c.** | 2,3 | **d.** | 3,10 |  |
| **3.** | Identify the correct query to delete the record of Meena from Students table. | | | | **1** |
|  | **a.** | Alter Students drop where name like ”Meena; | **b.** | Delete \* from Students where Name like ‘Meena’; |  |
|  | **c.** | Update Students delete name like’Meena’; | **d.** | Delete from Students where name like ‘Meena’; |  |
| **4.** | What will be the output of the following query:  SELECT COUNT(ADDRESS) FROM STUDENTS; | | | | **1** |
|  | **a.** | 3 | **b.** | 4 |  |
|  | **c.** | 2 | **d.** | 1 |  |
| **5.** | In a stack, if a user tries to remove an element from empty stack, it is known as | | | | **1** |
|  | **a.** | Overflow | **b.** | Underflow |  |
|  | **c.** | Empty | **d.** | Peek |  |
| **6.** | When we connect our mobile with Laptop then we call it | | | | **1** |
|  | **a.** | LAN | **c.** | PAN |  |
|  | **b.** | WAN | **d.** | MAN |  |
| **7.** | 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 |  |
| **8.** | 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 I .** 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.  **I** A is true but R is false.  **(d)** A is false but R is true. | | | |  |
| **9.** | **Assertion (A):** The keyword DISTINCT is used with select command.  **Reason I:** Distinct keyword eliminates duplicate rows. | | | | **1** |
| **10.** | **Assertion (A):** CSV stands for comma separated value.  **Reason I :** CSV files are a common file format for transferring and storing data. | | | | **1** |
|  | **SECTION B** | | | |  |
| **11.** | a. Expand the following abbreviations:  i) NIC ii) MAC  b. What is the circuit switching? | | | | **2** |
| **12.** | Mr. Malik has just created a table named “Product\_Detail” containing columns :  Pname, Quantity and Price\_Per\_Unit  After creating the table, he realized that he had forgotten to add a primary key column in the table. Help him in writing an SQL command to add a primary key column Pid of integer type to the table Product\_Detail.  Thereafter, write the command to insert the following record in the table:  Pid- 910  Pname- T-shirt  Quantity- 35  Price\_Per\_Unit- 125 | | | | **2** |
| **13.** | Write the output of the queries (a) to (d) based on the table, Staff given below:     1. Select avg(exp) from staff where gender = ‘F’; 2. Select min(doj) from staff; 3. Select \*from staff where gender!=’M’ and dept like ‘\_ \_ \_ \_ \_’; 4. Select name, doj from staff where dept not in (‘Finance’,’Sales’); | | | | **2** |
| **14.** | Consider the text file ‘cricket.txt’ has the following content (2 lines):  *India won the world cup*  *in the year 1983*  What will be the output of the following line of code?  Fobj=open(“cricket.txt”,”r”)  print(fobj.read(10))  fobj.readline()  print(fobj.tell())  fobj.seek(37)  print(fobj.read())  print(fobj.name)  fobj.close() | | | | **2** |
| **15.** | a. Mention one advantage and one disadvantage of Star Topology.  b. Differentiate between switch and hub. | | | | **2** |
|  | **SECTION C** | | | |  |
| **16.** | a) Consider the following tables Emp and Dept:    What will be the output of the following statement?  SELECT \* FROM Emp NATURAL JOIN Dept WHERE dname=’Physics’;  b) Write output of the queries (i) to (iv) based on the table Sportsclub.  Table Name: Sportsclub     1. SELECT DISTINCT sports FROM Sportsclub;   ii. SELECT sports, MAX(salary) FROM Sportsclub GROUP BY sports HAVING sports<>’SNOOKER’;  iii. SELECT pname, sports, salary FROM Sportsclub WHERE country=’INDIA’ ORDER BY salary DESC;  iv. SELECT SUM(salary) FROM Sportsclub WHERE rating=’B’; | | | | **3**  1+2 |
| **17.** | 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 | | | | **3** |
| **18.** | 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** |
| **19.** | 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** |
|  | **SECTION D** | | | |  |
| **20.** | 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. | | | |  |
| **21.** | 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** | | | |  |
| **22.** | Magnolia Infotech wants to set up their computer network in the Bangalore based campus having four buildings. Each block has a number of computers that are required to be connected for ease of communication, resource sharing and data security. You are required to suggest the best answers to the questions i) to v) keeping in mind the building layout on the campus.     1. Suggest the most appropriate block to host the Server. Also justify your choice. 2. Suggest the device that should be placed in the Server building so that they can connect to Internet Service Provider to avail Internet Services. 3. Suggest the wired medium and draw the cable block to block layout to economically connect the various blocks. 4. Suggest the placement of Switches and Repeaters in the network with justification. 5. Suggest the high-speed wired communication medium between Bangalore Campus and Mysore campus to establish a data network. | | | | **5** |
| **23.** | A binary file data.dat needs to be created with following data written it in the form of Dictionaries.  Write the following functions in python accommodate the data and manipulate it.   1. A function insert() that creates the data.dat file in your system and writes the above data of 3 records as three dictionaries. 2. A function read() that reads the data from the binary file and displays the dictionaries whose age is 16. | | | | **5** |

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