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| **UT/CSQP/1223/B 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 7 printed pages. 6. All programming questions are to be answered using Python Language only. | | | | | |
| **Qno** | **SECTION A** | | | | Mark |
| **1.** | State True or False:  The keyword LIKE can be used in a WHERE clause to refer to a range of values. | | | | **1** |
| **2.** | Which two select queries will give the same output  (A) SELECT NAME, GRADE FROM STUDENTS,SPORTS WHERE ADDRESS IS NULL AND STUDENTS.ADMNO =SPORTS.ADMNO ;  (B) SELECT NAME, GRADE FROM STUDENTS,SPORTS WHERE ADDRESS IS NOT NULL AND STUDENTS.ADMNO =SPORTS.ADMNO ;  (C) SELECT NAME, GRADE FROM STUDENTS,SPORTS WHERE ADDRESS IS NULL OR STUDENTS.ADMNO=SPORTS.ADMNO ;  (D) SELECT ST.NAME, SP.GRADE FROM STUDENTS ST,SPORTS SP WHERE ADDRESS IS NULL AND ST.ADMNO=SP.ADMNO ; | | | | **1** |
|  | **a.** | A and B | **b.** | B and C |  |
|  | **c.** | A and D | **d.** | C and D |  |
| **3.** | The data types CHAR (n) and VARCHAR (n) are used to create-------- and------- types of string/text  fields in a database. | | | | **1** |
|  | **a.** | Fixed, equal | **b.** | Equal, variable |  |
|  | **c.** | Fixed, variable | **d.** | Variable, equal |  |
| **4.** | Which is the subset of SQL commands used to manipulate database structure including tables? | | | | **1** |
|  | **a.** | Data Definition Language (DDL) | **b.** | Data Manipulation Language (DML) |  |
|  | **c.** | Both (a) and (b) | **d.** | Data Control Language |  |
| **5.** | A stack is which of the following type of data structure? | | | | **1** |
|  | **a.** | Linear | **b.** | Dynamic |  |
|  | **c.** | Circular | **d.** | All of these |  |
| **6.** | -------normally connects LANs and WANs together. | | | | **1** |
|  | **a.** | Hub | **c.** | Bridge |  |
|  | **b.** | Switch | **d.** | Router |  |
| **7.** | The correct syntax of seek() is: | | | | **1** |
|  | **a.** | file\_object.seek(offset [, reference\_point]) | **b.** | seek(offset [, reference\_point]) |  |
|  | **c.** | seek(offset, file\_object) | **d.** | seek.file\_object(offset) |  |
| **8.** | Fill in the blank:  \_\_\_\_\_\_\_\_\_ is a non-key attribute, whose values are derived from the primary key of some other table. | | | | **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. | | | |  |
| **9.** | **Assertion(A):** When you open a file for writing, if the file does not exist,an error occurs.  **Reason(R):** When you open a file for writing, if the file exists, the existing file is overwritten with the new file. | | | | **1** |
| **10.** | **Assertion (A):** DISTINCT is similar to UNIQUE and can use only in SELECT clause.  **Reason (R) :** The UNIQUE keyword ensures no duplicate values and allow NULL values in a table | | | | **1** |
|  | **SECTION B** | | | |  |
| **11.** | a. Expand the following abbreviations:  i) HTTP ii) ARPANET  b. Why switch is called an intelligent hub? | | | | **2** |
| **12.** | a) Ariya wants to add another column ‘Gender’ in the already existing table ‘CUSTOMERS’.  She has written the following statement. However, it errors. Rewrite the correct statement.  MODIFY TABLE CUSTOMERS GENDER char(1);  b) Employee table has a column named ‘CITY’ that stores city in which each employee  resides. Write SQL query to display details of all rows except those rows that have CITY as  ‘DELHI’ or ‘MUMBAI’ or ‘CHANDIGARH’. | | | | **1+1=2** |
| **13.** | Write the output of the queries (a) to (d) based on the table, Transporter given below:     1. **To display the names of destination cities where items are being transported. There**   **should be no duplicate values.**  **ii) To display details of rows that have some value in DRIVERGRADE column.**  **ii) To display names of drivers, names of items and travel dates for those items that are**  **being transported on or before 1st April 2019.**  **iv) To display the number of drivers who have ‘MOHAN’ anywhere in their names.** | | | | **2** |
| **14. `** | Answer in brief with example  i) Purpose of close( ) function.  ii) Purpose of flush( ) function. | | | | **2** |
| **15.** | a. Difference between circuit switching and packet switching  b. Difference between a Router and Gateway | | | | **2** |
|  | **SECTION C** | | | |  |
| **16.** | a) Consider the following tables Emp and Dept:    What will be the output of the following statement? Also specify the degree and cardinality of the following query  SELECT \* FROM Emp JOIN Dept WHERE dname='Physics';  b) Write output of the queries (i) to (iv) based on the table Flight      **i) SELECT Flight\_No, Destination FROM Flight WHERE Destination LIKE ‘\_u%’;**  **ii) SELECT Origin, COUNT(\*) FROM Flight GROUP BY Origin;**  **iii) SELECT Origin, Destination FROM Flight WHERE seats>400;**  **iv) SELECT SUM(Rate),MAX( Seats) FROM Flight;** | | | | **3**  1+2 |
| **17.** | Write a function named COUNT\_CHAR() in python to count and display number of times the arithmetic operators (+,-,\*,/) appears in the file “Math.txt” .  For Example: if the file content of Math.txt  Solve the following:  1.(A+B)\*C/D  2.(A-B)\*(A+B)/D-(E/F)  3. A+B+C/D\*(E/F)  The function COUNT\_CHAR() must display the output as  Number of “+”sign is 4  Number of “-“ sign is 2  Number of “\*” sign is 3  Number of “/” sign is 5 | | | | **3** |
| **18.** | A dictionary stu contains rollno and marks of students. Two empty list stack\_roll and stack\_mark will be used as stack. Two function push\_stu() and pop\_stu() is defined  and perform following operation  (a) Push\_stu() :- It reads dictionary stu and add keys into stack\_roll and values into stack\_marks for all students who secured more than 60 marks.  (b) Pop\_stu() :- It removes last rollno and marks from both list and print "underflow" if there is nothing to remove  For example  stu={1:56,2:45,3:78,4:65,5:35,6:90}  values of stack\_roll and stack\_mark after push\_stu()  [3,4,6] and {78,65,90} | | | | **3** |
| **19.** | Write SQL command for the following based on the table sports    Based on the above table answer the following questions.   1. Display the names of the students who have same game for both game1 and game2 2. Assign the value “DONE” to Game1 and Game2 for all those getting grade B and above in both game1 and game2 3. Write a query to arranging the whole table in alphabetical order of name. | | | | **3** |
|  | **SECTION D** | | | |  |
| **20.** | Write SQL Commands for the following queries based on the relations GAMES and PLAYER given below.     1. Display the Game Name and prize money of all games those scheduled in January 2004 2. Display the sum of prizemoney for each of the Number of participation grouping 3. Display the Game Name, Name, ScheduleDate of all the games . 4. Display details of games and player which are having prizemoney more than 7000. | | | | **4** |
| **21.** | A binary file “Book.dat” has structure:  [BookNo, Book\_Name, Author,Price].   1. Write a user defined function CreateFile() to input data for a record and add to Book.dat   Write a function ModifyRec(Author) in Python which accepts the Author name as parameter and increase the price of books by the given Author by 10% in the binary file “Book.dat” | | | | **4** |
|  | **SECTION E** | | | |  |
| **22.** | Hindustan Connecting World Association is planning to start their offices in four major cities in India to provide regional IT infrastructure support in the field of education and culture. The  company has planned to setup their head office in New Delhi in three different locations and  have named their New Delhi offices as Sales Office, Head Office and Tech Office. The company’s regional offices are located at Coimbatore, Kolkata and Ahmedabad. A rough layout of the same is as follow    Approximate distances between these offices as per network survey team is as follows:    In continuation of the above, the company experts have planned to install the following number of computers in each of their offices.     1. Suggest the network type (out of LAN, MAN, WAN) for connecting each of the following set of their offices.   (a) Head Office and Tech Office  (b) Head Office and Coimbatore Office  (ii) Which device will you suggest to be procured by the company for connecting all  computers within each of their offices out of the following devices?  (a) Modem  (b) Telephone  I Switch/Hub  (iii) Which of the following communication media will you suggest to be procured by the  company for connecting their local offices in New Delhi for very effective and fast  communication?  (a) Ethernet cable  (b) Optical fiber  I Telephone cable  (iv) Suggest the cable/wiring layout for connecting the company’s local offices located in  New Delhi. Also, suggest an effective method/technology for connecting the  company’s regional offices at Kolkata, Coimbatore and Ahmedabad.  (v) Suggest the device that should be placed in the Server building so that they can  connect to Internet Service Provider to avail Internet Services. | | | | **5** |
| **23.** | (i) Differentiate between the writerow and writerows function.  (ii) Write a Program in Python that defines and calls the following user defined functions:   1. add() – To accept and add data of furniture to a CSV file”furniture.CSV". Each record consists of a list with field elements as FId, FName and Fprice to store furniture id,furniture name and furniture price respectively.[heading not to be added in the file]   (ii) search()- To display the records of the furniture whose price is more than 10000 | | | | **1+4=5** |

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