 **Indian School Al Wadi Al Kabir**

**Assessment – 1**

**COMPUTER SCIENCE (Code: 083)**

 **SET- I**

CLASS : XII Max. Marks:70

Date: 29/09/2024 Time: 3 hours

**General Instructions:**

● This question paper contains 37 questions.

● All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions

● The paper is divided into 5 Sections- A, B, C, D and E.

● Section A consists of 21 questions (1 to 21). Each question carries 1 Mark.

● Section B consists of 7 questions (22 to 28). Each question carries 2 Marks.

● Section C consists of 3 questions (29 to 31). Each question carries 3 Marks.

● Section D consists of 4 questions (32 to 35). Each question carries 4 Marks.

● Section E consists of 2 questions (36 to 37). Each question carries 5 Marks.

● All programming questions are to be answered using Python Language only.

 ● In case of MCQ, text of the correct answer should also be written.

|  |  |  |
| --- | --- | --- |
|  | **SECTION A** |  |
| 1. |  State True or False : “In Python, tuple is a mutable data type”. | 1 |
| 2. |  What will be the output of the following statement? print(6+5/4\*\*2//5+8) a. –14.0  b. 14.0 c. 14  d. –14 | 1 |
| 3. | Identify the valid Python identifier from the following: a. 2user b. user@2c. user\_2 d. user 2 | 1 |
| 4. |  In SQL, which command will be used to add a new record in a table ?  a. UPDATE  b. ADD c. INSERT  d. ALTER TABLE | 1 |
| 5. |  Select the correct output of the code: S = "text#next" print(S.strip("t")) a. ext#nex b. ex#nex c. text#nex  d. ext#next | 1 |
| 6. | \_\_\_\_\_\_\_\_\_\_ files are stored in a computer in a sequence of bytes.1. Text
2. Binary
3. CSV
4. Notepad
 | 1 |
| 7. |  The SELECT statement when combined with \_\_\_\_\_\_\_ clause , returns records  without repetition.1. DISTINCT
2. DESCRIBE
3. UNIQUE
4. NULL
 | 1 |
| 8. |  Consider the statements given below and then choose the correct output from  the given options : Game="World Cup 2023" print(Game[-6::-1]) a. CdrW  b. ce o c. puC dlroW  d. Error | 1 |
| 9. | Which of the following output will **never be** obtained when the given code is executed?import randomShuffle = random.randrange(10)+1Draw = 10\*random.randrange(5)print ("Shuffle", Shuffle, end="#")print ("Draw", Draw)a. Shuffle 1 # Draw 0 b. Shuffle 10 # Draw 10c. Shuffle 10 # Draw 0 d. Shuffle 11 # Draw 50 | 1 |
| 10. |  Which of the following clauses in SQL is most appropriate to use to select  matching tuples in a specific range of values?  a. IN b. LIKE c. BETWEEN d. IS | 1 |
| 11. |  The correct output of the given expression is: True or not False and False1. False
2. True
3. Error
4. Null
 | 1 |
| 12. | In a table in MYSQL database, an attribute A of datatype char(20) has the value “Rehaan”. The attribute B of datatype varchar(20) has value “Fatima”. How many characters are occupied by attribute A and attribute B?a. 20,6 b. 6,20c. 9,6 d. 6,9 | 1 |
| 13. | What should be the output of the following code?String = “India will be a global player in the digital economy”Str1= String.title()Str2=Str1.split()print(Str2[len(Str2)-1:-3:-1]) a. [‘Digital’,’Economy’]  b. [‘The’,’Digital’,’Economy’] c. [‘economy’,’digital’]  d. [‘Economy’,’Digital’] | 1 |
| 14. |  Observe the given code carefully: a=20 def change(a): b=20 a=a+b change(10) print(a) Select the correct output from the given options:1. 10
2. 20
3. 30
4. Error
 | 1 |
| 15. |  What will be output of the following code: d1={1:2,3:4,5:6} d2=d1.popitem() print(d2)1. 6
2. {}
3. (1,2)
4. (5,6)
 | 1 |
| 16. |  Which of the following is not a valid DML command in SQL?  a. INSERT b. UPDATE c. ALTER d. DELETE | 1 |
| 17 |  Which SQL operator performs pattern matching? a. BETWEEN operator b. LIKE operator c. EXISTS operator d. = |  |
| 18 |  Which of the following is used to give conditions on groups?1. GROUP BY
2. WHERE
3. HAVING
4. ORDER BY
 | 1 |
| 19 |  What does the list.remove(x) method do in Python?1. Removes the element at index x from the list
2. Removes the first occurrence of value x from the list
3. Removes all occurrences of value x from the list
4. Removes the last occurrence of value x from the list
 |  |
| 20 |  Assertion (A) : If numeric data are to be written to a text file, the data needs to be converted into a string before writing to the file. Reason (R) : write() method takes a string as an argument and writes it to the text  file (A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A). (B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A). (C) Assertion (A) is true, but Reason (R) is false. (D) Assertion (A) is false, but Reason (R) is true. | 1 |
| 21 |  Assertion ( A) : In SQL, the aggregate function Avg() calculates the average  value on a set of values and produce a single result.  Reason ( R) : The aggregate functions are used to perform some  fundamental arithmetic tasks such as Min(),Max(), Sum() etc   (A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A). (B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A). (C) Assertion (A) is true, but Reason (R) is false. (D) Assertion (A) is false, but Reason (R) is true. | 1 |
|  | **SECTION B** |  |
| 22. | i. A table sports in MYSQL contains the columns game\_id, p\_age and  g\_name. Write command to add a column **category** with suitable datatype. ii. Write command(s) to view the tables in the database, **Exam.** | 2 |
| 23. | The contents of a text file named ‘quote.txt’ is as shown below: **Twinkle twinkle little star** **How I wonder what you are!**What will be the output of the following code? fin = open('quote.txt’) data = fin.read(10) print(data[0:3], end= ‘’) data = fin.readline() print(data[0:3] , end= ‘’) fin.seek(0) data = fin.read(6) print(data[0:3] , end= ‘’) | 2 |
| 24. |  Write the user defined function Search(teacher, tname) to search for tname from  a list teacher, and display the position of its presence.  For example : If the teacher contain [‘Arnab’, ‘Dridha’, ‘Karnish’, ‘dridha’, ‘Sharath’, ‘Sravan’] And tname is ‘Dridha’ The function should display Dridha at 2 dridha at 4 | 2 |
| 25. |  Predict the output of the following code : d={"IND":"DEL","SRI":"COL","CHI":"BEI"} str1="" for i in d: str1=str1 + str(d[i]) +"@" str2=str1[ : -1] print (str2) | 2 |
| 26. |  Write the Python statement for each of the following tasks using BUILT-IN functions/methods only : (i) To delete an element 10 from the list lst. (ii) To replace the string "This" with "That" in the string str1. | 2 |
| 27. |   Ms. Rita is a database administrator at a school. She is working on the table, student containing the columns like Stud\_id, Name, Class and Stream. She has been asked by the Principal to strike off the record of a student named Rahul with student\_id as 100 from the school records and add another student who has been admitted with the following details : Stud\_id – 123 Name – Rajeev Class – 12 Stream – Science Help her by writing SQL queries for both tasks. | 2 |
| 28. |  Predict the output of the following code :def Total(Num=10):Sum=0for C in range(1, Num+1): if C%2!=0: continue Sum+=Creturn Sumprint(Total(4),end="$")print(Total(),sep="@") | 2 |
|  | **SECTION C** |  |
| 29. | Write a method/function COUNTWORDS() in Python to read contents from a Text file DECODE.TXT, to count and return the occurrence of those words, which are having 5 or more characters.  ORWrite a method/function COUNTLINES() in Python to read lines from a text File CONTENT.TXT, and count the number of lines with minimum 5 words. | 3 |
| 30. |  Consider the table Rent\_cab, given below :Table : Rent\_cab

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Vcode | VName | Make | Color | Charges |
| 101 | Big car | Carus | White | 15 |
| 102 | Small car | Polestar | Silver | 10 |
| 103 | Family car | Windspeed | Black | 20 |
| 104 | Classic | Studio | White | 30 |
| 105 | Luxury | Trona | Red | 9 |

Based on the given table, write SQL queries for the following :(i) Add a primary key constraint to a column name Vcode.(ii) Increase the charges of all the cabs by 10%.(iii) Delete the column color. | 3 |
| 31. |  A dictionary, **d\_city** contains the records in the following format :**{state:city}** Define the following functions with the given specifications : (i) **push\_city(d\_city):** It takes the dictionary as an argument and pushes all the cities in the stack **CITY** whose states are of more than 4 characters. (ii) **pop\_city():** This function pops the cities and displays **"Stack empty"** when there are no more cities in the stack. | 3 |
|  | **SECTION D** |  |
| 32 | 1. What is the process of exception handling?
2. Give an example code to handle NameError. The code should display the message "Name is not defined" in case of NameError exception, and the message "Some error occurred" in case of any other exception.
 | **4** |
| 33 |  Consider the table Stationery given below and write SQL queries that follow. Table : Stationery    1. To display the average price for each distributor, excluding Products with total Quantity less than 200.
2. To display the records, sorted by price in descending order.
3. To display different distributors from the table.
4. Display the sum of Price of all items for which the quantity is less than 100
 | **4** |
| 34. |  Mr. Mahesh is a Python Programmer working in a school. He has to maintain the records of the sports students. He has created a csv file named sports.csv, to store the details. The structure of sports.csv is :[sport\_id, competition, prize\_won]Mr. Mahesh wants to write the following user-defined functions :Add\_detail(): to accept the detail of a student and add to a csv file,"sports.csv".Count\_Medal(): to display the name of competitions in which students havewon "Gold" medal.Help him in writing the code of both the functions | 4 |
| 35. | (i) What is the main purpose of seek() and tell() method ?(ii) Consider a binary file, Cinema.dat containing information in the following structure :[Mno, Mname, Mtype]Write a function, search\_copy(), that reads the content from the fileCinema.dat and copies all the details of the "Comedy" movie type to filenamed movie.dat. iii) A CSV file “TEST.CSV” has some records of the [TestId, Subject,  MaxMarks, ScoredMarks]. Write a function in python named  countGradeAB(Sub) that will accept a subject as an argument and read  the contents of TEST.CSV. The function will calculate & display the  count of Grade A (i.e. scored marks is 90 and above) and Count of Grade  B (i.e., scored marks is 80 – 89 marks) of the subject which is accepted by  the function. | 1+3 |
|  | **SECTION E** |  |
| 36. |  Consider the following CLIENT table and write MySQL Queries for the  following (i) to (v):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IDNO | CNAME | GENDER | ORDAMT | CTYPE | ORDDATE |
| 1919 | Michael Smith | M | 34000 | REGULAR | 1987/06/04 |
| 1653 | Brittany Jones | F | 34000 | NEW | 1990/08/09 |
| 1400 | John Smith | M | 29750 | REGULAR | 1990/10/16 |
| 1350 | Barbara Todd | F | 32000 | SPECIAL | 1990/07/29 |
| 1401 | Warren Pease | M | 37500 | REGULAR | 1985/11/17 |
| 1499 | Ashley Ross | F | 43000 | NEW | NULL |
| 1101 | Ben Rob | M | 18700 | NEW | 1990/10/01 |
| 1333 | Jon Garcia | M | 88000 | SPECIAL | 1981/02/10 |
| 1402 | Albert Hu | M | 32600 | REGULAR | NULL |
| 1479 | Sarah Davis | F | 38000 | SPECIAL | 1987/10/05 |

1. Display the number of client and the average ordamt in each ctype.

ii. Display the details of the REGULAR clients in the ascending order of their  order amount. iii. Display the Client Name, Gender and their order date of those clients whose  name end with the letter S. iv. Display the details of the clients who are not of type REGULAR or NEW. v. Display the name and type of all clients with orderdate is before 1985/05/10 | 5 |
| 37. | Sanjay is working on a binary file, PRODUCTS.DAT, containing records of the following structure:{‘PID’:Product ID, ‘PNAME’:Product Name , ‘PRICE’:Product Price}Help him to write the following user defined functions:(i) appendData(), that reads the values of Product ID, Product Name and Product price from the user into a dictionary and append it into binary file PRODUCTS.DAT.(ii) findProduct(product\_id) that accepts product\_id as argument to read binary  file PRODUCTS.DAT and display the details of that product. | 5 |

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