**INDIAN SCHOOL AL WADI AL KABIR**

Assessment-I 2023-24

**SUB: Computer Science (083)**

Date: 21/09/2023 Time Allowed:3 hours

Class: XII Maximum Marks: 70

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| *General instructions*:  • Please check that this question paper contains 35 questions.  • The paper is divided into 5 Sections- A, B, C, D and E.  • Section A, consists of 18 questions (1 to 18). Each question carries 1 Mark.  • Section B, consists of 7 questions (19 to 25). Each question carries 2 Marks.  • Section C, consists of 5 questions (26 to 30). Each question carries 3 Marks.  • Section D, consists of 2 questions (31 to 32). Each question carries 4 Marks.  • Section E, consists of 3 questions (33 to 35). Each question carries 5 Marks.  • All programming questions are to be answered using Python Language only | | |
|  | **SECTION –A** |  |
| **Q. No.** | **Question** | **Marks** |
| 1. | State True or False  “Variable declaration is implicit in Python.” | 1 |
| 2. | In a table in MySQL database, an attribute A of datatype varchar(20) has the value “Madhav”. The attribute B of datatype char(20) has value “Veera”. How many characters are occupied by attribute A and attribute B?  a. 20,6 b. 6,20 c. 9,6 d. 6,9 | 1 |
| 3. | What will be the output of the following statement:  print(5-2\*\*2\*\*3+88/22)  a. 247 b. 247.0 c. -247.0 d. Error | 1 |
| 4. | Select the correct output of the code:  s="Learning is fun"  l=s.split()  s\_new="-".join([l[0].upper(),l[1],l[2].capitalize()])  print(s\_new)  Options:  a. LEARNING-IS-Fun  b. LEARNING-is-Fun  c. Learning-is-fun  d. LEARNING-Is –Fun | 1 |
| 5. | Which of the following mode in file opening statement results or generates an error if the file does not exist?  a. a+ b. r+ c. w+ d. None of the above | 1 |
| 6. | Which of the following will delete key-value pair for key = “Book” from a dictionary D1?  a. delete D1("Book")  b. del D1["Book"]  c. del.D1["Book"]  d. D1.del["Book"] | 1 |
| 7. | Consider the statements given below and then choose the correct output from the given options:  P="English Idioms"  print(P[-2:2:-2])  Options:  a. midhi b. miIhi c. odhsg d. mihii | 1 |
| 8. | Which of the following statement(s) would give an error during execution of the following code?  tup = (20,30,40,50,80,79)  print(tup) #Statement 1  print(tup[3]+50) #Statement 2  print(max(tup)) #Statement 3  tup[4]=80 #Statement 4  a. Statement 1 b. Statement 2 c. Statement 3 d. Statement 4 | 1 |
| 9. | Fill in the blank:  The SELECT statement when combined with \_\_\_\_\_\_\_\_\_\_ clause, returns values that match any value in a given list of values.  (a) DESCRIBE (b) IN (c) DISTINCT (d) NULL | 1 |
| 10. | What will the following expression be evaluated to in Python?  print(15.0 / 4 + (8 + 3.0))  (a) 14.75 (b)14.0 (c) 15 (d) 15.5 | 1 |
| 11. | Find output of the following code segment:  L1 = [5,12,15,20,25]  L1.append([35, 40, 45])  L1.extend([42,45,50])  print(len(L1))   1. 6 2. 7 3. 8 4. 9 | 1 |
| 12. | Write the command used in SQL to view the structure of the table “Library”? | 1 |
| 13. | Which of the following statement(s) would give an error after executing the following code?  S="Good morning" # Statement 1  print(S) # Statement 2  S="Best wishes" # Statement 3  S[0]= '@' # Statement 4  S=S+"Best Wishes" # Statement 5  (a) Statement 3 (b) Statement 4 (c) Statement 5 (d) Statement 4 and 5 | 1 |
| 14. | Which of the following statements is FALSE about keys in a relational database?  a. Any candidate key is eligible to become a primary key.  b. A primary key uniquely identifies the tuples in a relation.  c. A candidate key that is not a primary key is a foreign key.  d. A foreign key is an attribute whose value is derived from the primary key of another relation. | 1 |
| 15. | Find the valid identifier from the following  a. while b. book@store c. school\_name d. True | 1 |
| 16. | Which of the following function returns the current position of the file pointer in the file?  a.flush() b.tell() c.seek() d.offset() | 1 |
| 17. | Assertion (A): CSV (Comma Separated Values) is a file format for data storage which looks like a text file.  Reasoning (R): The information is organized with one record on each line and each field is separated by comma.  (a) Both A and R are true and R is the correct explanation for A  (b) Both A and R are true and R is not the correct explanation for A  (c) A is True but R is False  (d) A is false but R is True | 1 |
| 18. | What is the purpose of LIKE keyword in SQL?   1. Eliminating redundant data 2. Selecting specific rows 3. Defines a range of values 4. Pattern matching | 1 |
|  | **SECTION – B** |  |
| 19. | Define the terms.   1. Foreign key 2. Cardinality | 2 |
| 20. | (a) Given is a Python string declaration:  data="$$CBSE Examination 2023@@"  Write the output of:  print(data[::-2])  (b) Write the output of the code given below:  a ={}  a['a']= 1  a['b']=[2, 3, 4]  print(a) | 2 |
| 21. | Consider the given code snippet.    def interest(prin,cc,time=2,rate=0.09):  return prin\*time\*rate  State the reason, why the following function calls are illegal.  a) interest(5000, principal=300,cc=2)  b) interest(rate=0.05,5000,3) | 2 |
| 22. | Meera has written a code to input a number and check whether it is prime or not. Her code is having errors. Rewrite the correct code and underline the corrections made.  def prime():  n=int(input("Enter number to check :: ")  for i in range (2, n//2):  if n%i=0  print("Number is not prime \n")  break  else:  print("Number is prime \n’) | 2 |
| 23. | Explain the use of BETWEEN command in SQL with an example. | 2 |
| 24. | Predict the output of the Python code given below:  def Calc(N1,N2):  if N1>N2:  return N1-N2  else:  return N2-N1  NUM= [10,23,14,54,32]  for CNT in range (4,0,-1):  A=NUM[CNT]  B=NUM[CNT-1]  print(Calc(A,B),'#', end=' ') | 2 |
| 25. | Categorize the following commands as DDL or DML:  INSERT, CREATE, DROP, SELECT | 2 |
|  | **SECTION C** |  |
| 26. | Consider the following table ‘student’   |  |  |  | | --- | --- | --- | | Name | Subject | Mark | | Laya | English | 45 | | Mohan | Maths | 48 | | John | Science | 46 | | Kripa | Computer Science | 47 |  1. Write the sql query to create the table student. 2. Write the sql query to insert first row of data to the table ‘student’. 3. Write a command to display name and subject of those students whose marks are minimum 46. | 3 |
| 27. | Write a user defined function countwords() to accept a sentence from console and display the total number of words present in that sentence.  For example if the sentence entered by user is:  “A computer is a [machine](https://en.wikipedia.org/wiki/Machine) that can be programmed to [carry out](https://en.wikipedia.org/wiki/Execution_(computing)) sequences of [arithmetic](https://en.wikipedia.org/wiki/Arithmetic) or [logical operations](https://en.wikipedia.org/wiki/Logical_operations) ”  Then the countwords() function should display the output  as:  Total number of words : 18 | 3 |
| 28. | Write a function in Python to read a text file, song.txt and displays those lines which begin with the word ‘She’. | 3 |
| 29. | Write a function LOCount() in Python, which should read each character of a text file “ALPHA.TXT” and then count and display the count of occurrence of alphabets L and O individually (including small cases l and o too).  Example: If the file content is as follows:  I wandered lonely as a cloud  That floats on high o'er vales and hills,  When all at once I saw a crowd,  A host, of golden daffodils  The LOCount() function should display the output as:  L or l: 11  O or o : 10 | 3 |
| 30. | A list contains following record of a student:  [student\_name, Phone\_number, City]  Write the following user defined functions to perform given operations on the stack named ‘data’:   1. Push\_element() - To Push an object containing name and Phone number of students who live in Delhi to the stack 2. (ii) Pop\_element() - To Pop the objects from the stack and display them. Also, display “Stack Empty” when there are no elements in the stack.   For example: If the lists of student details are:  [“Guna”, “99999999999”,”Delhi”]  [“Nila”, “8888888888”,”Mumbai”]  [“Neha”,”77777777777”,”Cochin”]  [“Lopez”, “1010101010”,”Delhi”]  The stack should contain  [“Lopez”,”1010101010”]  [“Guna”,”9999999999”]  The output should be:  [“Lopez”,”1010101010”]  [“Guna”,”9999999999”]  Stack Empty | 3 |
|  | **SECTION D** |  |
| 31. | a)State any one difference between Text file and Binary file.  b) A Binary file, MOVIE.DAT has the following structure:  {MNO:[MNAME, MTYPE]}  Where MNO – Movie Number, MNAME – Movie Name, MTYPE is Movie Type  Write a user defined function, findType(mtype), that accepts mtype as parameter and displays all the records from the binary file MOVIE.DAT, that have the value of Movie Type as mtype. | 1  3 |
| 32. | Write a program in python that defines and calls the following user defined functions:   1. add() – to accept and add data of the product to a csv file ‘product.csv’. Each record consists of a list with field elements as pid, pname and pprice to store product id, product name and product price respectively. 2. search()- to display the records of the product whose price is more than 10000. | 4 |
| **SECTION E** | | |
| 33. | a. Predict the output of the code given below:  s="Party4fun"  n = len(s)  m=""  for i in range(0, n):  if (s[i] >= 'a' and s[i] <= 'm'):  m = m +s[i].upper()  elif (s[i] >= 'n' and s[i] <= 'z'):  m = m +s[i-1]  elif (s[i].isupper()):  m = m + s[i].lower()  else:  m = m +'&'  print(m)  b.List out all the types of function arguments. Explain each with appropriate example. | 2  3 |
| 34. | a) 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 . 2. Write a function CountRec(Author) in Python which accepts the Author name as parameter and count and return number of books by the given Author are stored in the binary file “Book.dat”. | 1  4 |
| 35. | Manoj creates a table RESULT with a set of records to maintain the marks secured by students in Assessment1, Assessment2, Assessment3 and their division. After creation of the table, he has entered data of 7 students in the table.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | RollNo | Name | Assessment1 | Assessment2 | Assessment3 | Division | | 501 | Arpita | 366 | 410 | 402 | I | | 502 | Neena | 300 | 350 | 325 | I | | 503 | Manu | 400 | 410 | 415 | I | | 504 | Soham | 350 | 357 | 415 | I | | 505 | Laya | 100 | 75 | 178 | IV | | 506 | Renu | 100 | 205 | 217 | II | | 507 | Rehan | 470 | 450 | 471 | I |   Based on the data given above answer the following questions:   1. Identify the most appropriate column, which can be considered as Primary key 2. If 2 columns are added and 2 rows are deleted from the table result, what will be the new degree and cardinality of the above table? 3. Write the statements to:   a. Display the details of the students whose name ends with ‘a’.  b. Display the roll number and name of students who got marks more than 400 in Assessment3.  c. Display the details of the student who got marks less than 250 in both Assessment1 and Assessment2 | 5 |

***All the Best***