Roll No. : _____   Sub. Code : 083

D.A.V. INSTITUTIONS, CHHATTISGARH
Practice Paper - 5 : 2023-24
Class : XII

Time : 3 Hrs.   Subject : Computer Science-Python (083)   Max. Marks : 70

General Instructions :

➢ *Question paper is containing 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.*
➢ *In some questions of Section B,C & E there will be internal choice.*
➢ *All programming questions are to be answered using Python Language only.*

Section : A (1 Mark each)
Select the most appropriate option out of the options given or write answer in one word/line.

Attempt all the questions from question No. 1 to 18.

1   State True or False
     "A dictionary is ordered by index ".   1

2   The module required to use the mode function is   1
         (a) math   (b) statistics   (c) random   (d) Pandas

3   The output of print(math.ceil(17.34)) is   1
         (a) 18   (b) 17   (c) 10   (d) 20

4   Which function is used to generate a sequence of numbers overtime ?   1
         (a) range()   (b) len()   (c) limit()   (d) lim()

5   Which of the following symbol is used in Python for comments ?   1
         (a) $ (b) @   (c) //   (d) #

6   The default mode in which a file is opened is   1
         (a) r   (b) rw+   (c) w   (d) a

7   Which of the following is not a DDL command ?   1
         (a) ALTER   (b) CREATE   (c) DROP   (d) DELETE

8   The …………… command can be used to remove all records of a table along with the
     table structure.   1
         (a) DELETE TABLE   (b) DROP TABLE
         (c) REMOVE TABLE   (d) None of these

9   What is the output of the following mode ?
     >>> a = 5
     >>> b = 2   1
     >>> print(a+10*2+b)
         (a) 27   (b) 25   (c) 40   (d) 80

10   The relation between Primary key, Candidate key and Alternate key is
         (a) Primary key = Candidate key – Alternate key
         (b) Candidate key = Primary key – Alternate key   1
         (c) Alternate key = Primary key + Candidate key
         (d) None of the above

11   Fill in the blanks :   1

………………….. is used to return access mode with that file was opened.

    (a) mode.file   (b) mode.file.name   (c) file.mode   (d) file.mode.type

12   In a stack, if a user tries to remove an element from empty stack is called

    (a) Underflow   (b) Overflow   (c) Empty   (d) file.mode.type   1

13   State whether the following statement is True or False.

Two friends have connected their computers, but are getting weak signals. Repeater   1
need to be used to get better signals.

14   Given a list Lst=[65, 182, 90, 420, 20, 10].

What will be the correct statement to take out the 3rd element from the list ?   1

    (a) Lst.pop(2)   (b)L.find(2)   (c)L.pop(-1)   (d) L. del(90)

15   Fill in the blank :

     Frequency is measured in ……………………..   1

16   What is the collection of the hyperlinked document on the Internet known as ?

    (a) HTML   (b) Email   (c) WWW   (d) Internet   1

17   Assertion(A) Python overwrites an existing file or creates a non-existing file when we
open a file with 'w' mode.

Reason (R) a+ mode is used only for writing operations.

    (a) Both A and R are true and R is the correct explanation for A.   1

    (b) Both A and R are true but R is the correct explanation for A.

    (c) A is the true but R is false.

    (d) A is false but R is true.

18   Assertion (A) A file that is opened using the open() function may not specific the mode
of opening it.

Reason (R) If the mode is not specified, the read mode is used by default.

    (a) Both A and R are true and R is the correct explanation for A.   1

    (b) Both A and R are true but R is the correct explanation for A.

    (c) A is the true but R is false.

    (d) A is false but R is true.

Section B

Attempt all the questions from Q.No. 19 to 25 . Each question carries 2 mark

19 (a)   Expand the following : IMAP, GSM

    (b)   Give one difference between Ipv4 and Ipv6.

                                        OR   [1+1=2]

    (a)   Can we use URL to access a web page ? How ?

    (b)   Name any two web browsers.

20   Nivedya is a Python programmer working on a program to find and return the
maximum value from the list. The code written below has syntactical errors. Rewrite
the correct code and underline the corrections made.

def max_num(L) :

max = L(0)   2

for a in L :

if a >max

return max

21   Consider the below list and answer the below questions :

M = [6, 9, 8,'Hi','Hello', 45, 23, 'New']

    (a) M[4:]   (b) M[-4]   (c) M[2:5]   (d) 'World' in M

                                      OR   2

Find outputs of following code :

    L = { 118, 16, [20, 30, 50], 120}

    L1 = [12, 16, 17]

```
            L.extend(L1)
            print(L[2][2])
            print(L)
```

22   What output will be generated when the following Python code is executed ?
```
def changeList ():
        M = [ ]
        M1 = [ ]
        M2 = [ ]
        for i in range (1,10) :
                M.append(i)
        for i in range (10,1,-2) :
                M1.append(i)
        for i  in range (len(l1)) :
                M2.append(M1[i] + lMi])
        M2.append(len(l)  - len (l1))
        print(l2)
changeList()
```
   2

23   Write the statements to :
    (a) Delete the record of students securing IV division.
    (b) Add a column REMARKS in the table with datatype as varchar with 50
        characters.

<div align="center">OR</div>

   2

    (a) Write about the terms Degree and Cardinality of a table.
    (b) Write a query on the Salespeople table, whose output will exclude all
        salespeople with a rating >=100, unless they are located in Delhi.

24   Distinguish between Tuple and List.
<div align="center">OR</div>

How can you add following data in empty dictionary ?

Keys	Values
A	Sunday
B	Tuesday
C	Wednesday
D	Thursday

   2

25   Write a function that receives two string arguments and checks whether they are same-
length strings(returns True in this case otherwise False)
   2

<div align="center">**Section C**</div>
<div align="center">**Attempt all the questions from Q.No. 26 to 30 . Each question carries 3 mark**</div>

26   Find and write the output of the following Python code :
```
Data = ["P", 20,"R",10,"S",30 ]
Times = 0
Alpha = " "
Add = 0
for C in range(1,6,2) :
        Times = Times + C
        Alpha = Alpha + Data[C-1] + "$"
        Add = Add + Data[C]
        print Times, Add, Alpha
```
   3

27   Consider the table QUESTIONS given below and write the output of the SQL queries
that follow :
<div align="center">**Table : QUESTIONS**</div>
   3

QCODE	QTYPE	QMARKS	QCHAPTER	QLEVEL
10021	SA	2	REVISION TOUR	MEDIUM
10024	VSA	1	PYTHON FUNCTION	HIGH
10045	LA	5	NETWORK	MEDIUM
10067	MCQ	1	REVSION TOUR	LOW
10078	MSQ	1	PYTHON LIBRARIES	MEDIUM
10083	WORD	3	DATABASE	HIGH
10091	MATCH	2	DATA STRUCTURE	HIGH

    (a) SELECT COUNT(DISTINCT QLEVEL) FROM QUESTIONS;

    (b) SELECT QCHAPTER, QTYPE WHERE FROM QUESTIONS WHERE QMARKS >2 ;

    (c) SELECT MAX(QMARKS), MIN(QMARKS) FROM QUESTIONS ;

28   Write a function count_Uwords( ) in Python to count the words starting with a capital letter in a text file " Description.txt".

OR

Write a method Filterwords() to find and display words from a text file 'NewsLetter.txt' whose length is less than 4.   **3**

29   Write a function NOReplace() in Python, which accepts a list L of numbers. Thereafter, it increments all positive numbers by 2 and decrements all negative numbers by 3.   **3**

30   A list contains following record of customer :

[Customer_name, Phone_number, City]

Write the following user-defined functions to perform given operations on the stack named 'status' :

Push_element() : To Push an object containing name and Phone number of customers who live in 'Kolkata' to the stack.

Pop_element() : To Pop the objects from the stack and display them. Also, display ' Stack Empty' when there are no elements in the stack.   **3**

Section D

Attempt all the questions from Q.No. 31 to 32 . Each question carries 4 mark

31   Consider the table EXAMDETAILS given below :

Table : EXAMDETAILS				
EXAMID	ENAME	ELANGUAGE	RATING	PLATFORM
E001	SSE	ENGLISH	4	OFFILINE
E004	SSCE	ENGLISH	5	OFFLINE
E007	CET	HINDI	3	BLENDED
E011	TET	ENGLISH	2	ONLINE
E015	PET	HINDI	2	ONLINE

Write statements to :

    (a) Delete the records whose language is "ENGLISH"

    (b) Add a new record : "E020", "IIT", ENGLISH, 6, "ONLINE"

    (c) Add a new column "EFEES" of type float.

    (d) Display the structure of the table EXAMDETAILS.   **4**

32   Create a binary file student.dat to hold students' records like Rollno, Students name, and Address using the list. Write functions to write data, read them and print on the screen.

Give two functions as shown below :

file_create() : To write data into the file.

read_read() : To read data and print from file.   **4**

4

33   Devine Tech Corporation(DTC) is a professional consultancy company. The company is planning to set up their new offices in India with its hub at Hyderabad. As a network adviser, you have to understand their requirement and suggest them the best available solutions. Their queries are mentioned as (i) and (v) below :

Block to Block distance (in m)		
Block (From)	**Block (To)**	**Distance**
Human Resource	**Conference**	**110**
Human Resource	**Finance**	**40**
Conference	**Finance**	**80**

Expected number of computers to be in each block	
Block	**Computers**
Human Resource	25
Finance	120
Conference	90

5

(i)   Which will be the most appropriate block, where TTC should plan to install their server ?

(ii)   Draw a block to cable layout to connect all the buildings in the most appropriate manner for efficient communication.

(iii)   Suggest a suitable topology to connect the computers in each building.

(iv)   Which of the following device will be suggested by you to connect each computer in each of the buildings ?

        (a) Swtich/Hub   (b) Modem   (c) Gateway

(v)   Company is planning to connect its offices in Hyderabad which is less than 1 km. Which type of network will be formed ?

34 (i)   Differentiate between COUNT() and COUNT(*) functions in SQL.

    (ii)   Write a code to insert the following record in the table Product :

- Productno – integer
- Pname – string
- Productquantity – integer
- Productcost – 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 Manfacture.
- The details (Productno , Pname , Productquantity , Productcost) are to be accepted from user.

[1+4=5]

OR

(i)   Categorise the following commands as DDL or DML :

        INSERT, UPDATE, ALTER, DROP

(ii)   Write the code to read record from the table named student and displays only those records who have marks greater than 75 :

RollNo – integer

Name – string

Class – integer

Marks – integer

Note the following to establish connectivity between Python and MySQL :

- Username is root

5

- Password is tiger
- The table exists in a MySQL database named School.

35 (a) Which file can be opened with notepad as well as MS Excel ?

(b) A CSV file "Company.csv" file exists containing records of different types of products as per following structure :

CompanyID   Companyname   Companyyear   CompanyCost

Write a Python program to add and search records of companies from the csv file and display using the following functions :

AddCompany() Function to input details of company and store them to the file "Company.csv", if the company type is "public" or "private".

ShowCompany() To open the file " Company.csv", display details and number of "private company".

<div align="center">OR</div>

[1+4 =5]

(a) Which module is used to operate on CSV file ?

(b) Write a Python program with following functions :

addcsv() File old.csv has come from branch in Pune and it needs to be added to file "uploaded.csv" which has data for all branches. Write the code in the function to perform the same.

Convertcsv() A file old.csv has come with separator':" but your system can only read ';' Write a program to convert to "converted.csv" file. Write the function to change the separator of the file.

<div align="center">~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</div>