

Please Check that this question paper contains **35** questions and **08** pages.

**D.A.V. INSTITUTIONS, CHHATTISGARH**  
**Practice Paper - 6 : 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 | Find the invalid identifier from the following  | 1 |
|   | a) MyName    b) true            c) 2ndName            d) My_Name  |   |
| 2 | Identify the valid arithmetic operator in Python from the following.  | 1 |
|   | a) ?            b) <            c) **            d) and   |   |
| 3 | Identify the correct statement to produce the all values from 10 to 20 using range( )   | 1 |
|   | a) range(10,20)    b) range(10,21)    c) range(10,19)    d) range(20)   |   |
| 4 | Identify the correct option to add new value 50 to existing tuple T   | 1 |
|   | T = (11,22,33,44,55)  |   |
|   | a) T = T + 66            b) T = T + 66,            c) T = T + (66,)            d) T = T + (66)  |   |
| 5 | In MYSQL database, if a table, Hudco has degree 4 and cardinality 5, and another table, Rajhara has degree 7 and cardinality 4, what will be the degree and cardinality of the Cartesian product of Alpha and Beta? | 1 |
|   | a. 5,3            b. 11,20            c. 28,20            d. 11,9   |   |
| 6 | Rajan wants to connect all the computers of his office room. She uses Wireless Technology to connect all devices. Which type of network will be formed in this case?  | 1 |
|   | a. PAN            b. LAN            c. MAN            d. WAN  |   |
| 7 | Which of the following will add a key-value pair for key = "Red" with value 4 in a dictionary D1?   | 1 |
|   | a. D1.append("Red",90)            b. D1.insert("Red",90)<br>c. D1["Red"] = 90            d. D1. D1."Red" = 90   |   |
| 8 | Consider the statements given below and then choose the correct output from the given options: exam = "Your Exam 2024 is on the Way"  | 1 |
|   | print(exam[-2:2:-2])  |   |

a. u xm      b. ur E      c. our      d. Exam

9 Which of the following statement(s) would give an error during execution of the following code? 1

```
lst = (20,30,40,50,80,79)
```

```
print(lst) #Statement 1
```

```
print(lst[3] + 50) #Statement 2
```

```
print(maximum(lst)) #Statement 3
```

```
lst[4] = 80 #Statement 4
```

a. Statement 1      b. Statement 2      c. Statement 3      d. Statement 4

10 What possible outputs(s) will be obtained when the following code is executed? 1

```
import random
```

```
exam = ['UT1','UT2','HALF','ANNUAL']
```

```
myNo = random.randint(10,14) -10
```

```
for i in range(0,myNo-1):
```

```
    print(exam[i],end = '&')
```

i) UT1&HALF&ANNUAL&

ii) UT2&HALF&

iii) UT1&UT2&HALF&

iv) UT1&UT2&HALF&ANNUAL&

a) I only    b) i and ii    c) iv only    d) iii and iv

11 Consider the following code : 1

```
def myFunction(b) :
```

```
    b = b + 10
```

```
    print(b)
```

```
    return b
```

```
a = 34
```

```
b = myFunction(____) # statement to call the function with value
```

```
print(b)
```

Which of the following statements should be given in the blank for #Missing value, if the output produced is 110?

a) 66      b) 76      c) 56      d) 110

12 State whether the following statement is True or False: 1  
A CSV file can store values with separator # also.

13 Which of the following statements is FALSE about keys in a relational database? 1  
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.

- 14 Which of the following function changes the data in a file ? 1  
 a. flush()      b. dump()                      c. load()                      d. read( )
- 15 Fill in the blank: 1  
 The modem at the sender's computer end acts as a \_\_\_\_\_.  
 a. Model      b. Modulator                      c. Demodulator                      d. Convertor
- 16 Fill in the blank: 1  
 In case of \_\_\_\_\_ switching, when a communication starts, a dedicated path is not require between the sender and the receiver.
- Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as
- (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
- 17 Assertion(A): Tuple is an immutable data type 1  
 Reasoning(R): When an attempt is made to update the value of an immutable variable, the old variable is remain and a new variable is created by the same name in memory.
- 18 Assertion(A): Python is Object Oriented Language with various modules. 1  
 Reasoning(R): A module is consisting of many functions to simplify the code and avoids repetition.

### Section B

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

- 19 (i) Expand the following terms: SMTP , WWW 2  
 (ii) Give one difference between HTML and web page.

OR

- (i) Define the term baud with respect to networks.
- (ii) How is http different from https?

- 20 The code given below accepts a number as an argument and returns the sum of digits of that number. Observe the following code carefully and rewrite it after removing all syntax and logical errors. Underline all the corrections made. 2

```
def sumNumber(Num)
    sm = 0
    while Num > 0 :
        dg = num % 10
        sm = + dg
        Num = Num // 10
return sm
print(sumNumber(234))
```

- 21 Write a function countString(S) in Python, that takes the list of strings, S as an argument and displays the strings (in uppercase) whose length is more than 5 characters. 2

For example,

Consider the following list of strings S = ["Delhi", "London", "Paris", "New York"]

The output should be:

LONDON

NEW YORK

OR

Write a function, reverseWord(String), that takes a string as an argument and returns a string containing reverse of first word of the given string.

For example,

if the string is "Come let us have exam",

the string will have

emoC

22 Predict the output of the following code: 2

```
str1 = "Python for beginners is easy to learn"
```

```
str2 = "easy"
```

```
print("The first occurrence of str2 is at : ", end="")
```

```
print(str1.find( str2))
```

```
print("The last occurrence of str2 is at : ", end="")
```

```
print(str1.find( str2, 4))
```

23 Write the Python statement for each of the following tasks using BUILT-IN functions/methods only: (i) To delete an element 200 from the third position, in the list L1. 2

(ii) To check whether a string named, message ends with a full stop / period or not.

OR

A list named Age stores age of students of a class. Write the Python command to import the required module and (using built-in function) to display the most common age value from the given list.

24 Ms. Shamira has just created a table named "Product" containing columns Pname, Rate and Qty. After creating the table, she realized that she has forgotten to add a column PNo with primary key in the table. Help her in writing an SQL command to add a column PNo with primary key of character type to the table Product. 2

After that insert a new record to the table with your own specified value.

OR

Zakir is working in a table named "School" containing columns SchoolNo, SchoolName, no\_of\_students, and category. After creating the table, he realized that the attribute, category has to be changed to the size 50 instead of 40 characters and this should not be left blank. Help Zakir to write the commands to complete the tasks. After that insert a new record in it.

25 Predict the output of the following code: 2

```
fruits = ["apple", "banana", "cherry", "kiwi", "mango"]
```

```
newlist = [ ]
```

```
for x in fruits:
```

```
    if "a" in x:
```

```
        newlist.append(x)
```

```
print(newlist)
```

### Section C

Attempt all the questions from Q.No. 26 to 30 . Each question carries 3 mark

26 Predict the output of the Python code given below: 3

```
s = 'Hello@Python'
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)
```

27 Consider the table FURNITURE given below and write the output of the SQL queries that follow. 3

FID	NAME	DATE OF PURCHASE	COST	DISCOUNT
B001	Double Bed	03-Jan-2018	45000	10
T010	Dining Table	10-Mar-2020	51000	5
B004	Single Bed	19-Jul-2021	22000	0
C003	Long Back Chair	30-Dec-2016	12000	3
T006	Console Table	17-Nov-2019	15000	12
B006	Bunk Bed	01-Jan-2021	28000	14

(i) SELECT COUNT(DISTINCT NAME) FROM FURNITURE ;

(ii) SELECT NAME, COST FROM FURNITURE WHERE COST > 40000 ;

(iii) SELECT NAME, DISCOUNT FROM FURNITURE WHERE NAME LIKE 'D%' ;

28 Write a function in Python to read a text file, Story.txt and displays those lines which ends with the letter 'u'. 3

OR

Write a function, digitAlphaCount() in Python that counts and displays the number of digits and alphabets in the text file named myStory.txt.

29 Consider the table, MOVIEDETAILS given below: 3  
Table: MOVIEDETAILS

MOVIEID	TITLE	LANGUAGE	RATING	PLATFORM	RATEOFTICKET
M001	Minari	Korean	5	Netflix	170.00
M004	MGR Magan	Tamil	4	Hotstar	180.00

M010	Kaagaz	Hindi	3	Zee5	210.00
M011	Harry Potter and the Chamber of Secrets	English	4	Prime Video	185.00
M015	Uri	Hindi	5	Zee5	200.00
M020	Avengers: Endgame	English	4	Hotstar	190.00

Based on the given table, write SQL queries for the following:

- (i) Increase the rateofticket by 5%
- (ii) Display Title and Total rateofticket (sum of rateofticket) of all movies. The column heading 'Total rateofticket' should also be displayed.
- (iii) Delete the record of movie who have rating less than 4

30 Julie has created a dictionary containing names and marks as key value pairs of 6 students. 3  
Write a program, with separate user defined functions to perform the following operations:

- Push the keys (name of the student) of the dictionary into a stack, where the corresponding value (marks) is greater than 75
- Pop and display the content of the stack.

For example:

If the sample content of the dictionary is as follows:

R={"OM":76, "JAI":45, "BOB":89, "ALI":65, "ANU":90, "TOM":82}

The output from the program should be:

TOM ANU BOB OM

### Section D

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

31 **Question 11.** Write queries (a) to (d) based on the tables EMPLOYEE and DEPARTMENT given below: 4

Table: EMPLOYEE

EMPID	NAME	DOB	DEPTID	DESIG	SALARY
120	Alisha	23-Jan-1978	D001	Manager	75000
123	Nitin	10-Oct-1977	D002	AO	59000
129	Navjot	12-Jul-1971	D003	Supervisor	40000
130	Jimmy	30-Dec-1980	D004	Sales Rep	
131	Faiz	06-Apr-1984	D001	Dep Manager	65000

Table: DEPARTMENT

DEPTID	DEPTNAME	FLOORNO
D001	Personal	4
D002	Admin	10
D003	Production	1
D004	Sales	3

- a. To display the average salary of all employees, department wise.
- b. To display name and respective department name of each employee whose salary is

more than 50000.

- c. To display the names of employees whose salary is not known, in alphabetical order.
- d. To display DEPTID from the table EMPLOYEE without repetition.

32 Kavya is a Python programmer working in a school. For manipulating data, he has created a csv file named data.csv, to store the records. The structure of data.csv is : roll, name and class. 4

For efficiently maintaining data of the school, Kavya wants to write the following user defined functions:

Store() : to add/insert records in file 'data.csv'.

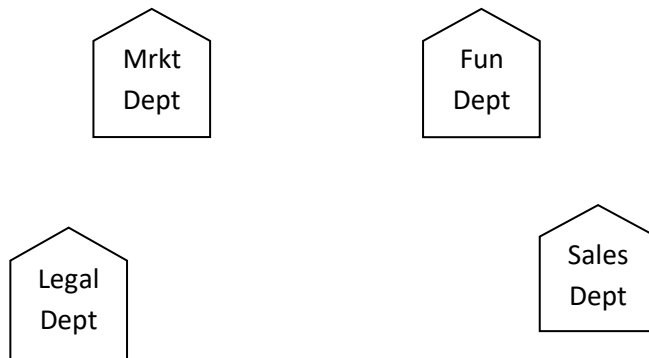
recordCount() – to count the number of students who have class 12.

As a Python expert, help her to complete the task.

### Section E

**Attempt all the questions from Q.No. 33 to 35 . Each question carries 5 mark**

33 SunRise Pvt. Ltd. is setting up the network in Ahmedabad. There are four departments— MrktDept, FunDept, LegalDept, SalesDept. 5



Distance between various buildings is as under:

MrktDept to FunDept	80 m
MrktDept to LegalDept	180 m
MrktDept to SalesDept	100 m
LegalDept to SalesDept	150 m
LegalDept to FunDept	100 m
FunDept to SalesDept	50 m

Number of computers in the buildings:

MrktDept	20
LegalDept	10
FunDept	08
SalesDept	42

- (i) Suggest the network type between the Departments and specify topology.
- (ii) Suggest the most suitable building to place the server with a suitable reason.
- (iii) Suggest the placement of i) modem, ii) Hub/Switch in the network.

- (iv) The organization is planning to link its sale counters situated in various parts of the same city. Which type of network out of LAN, WAN, MAN will be formed? Justify.
- (v) Is there a requirement of a repeater in the given cable layout? Why/ Why not?
- 34 (i) Differentiate between 'r' and 'w' file modes in Python. 1+4=5  
(ii) Consider a file, EMPLOYEES.DAT, containing records of the following structure:  
[EmployeeName, DeptName, No\_WorkingDays]  
Write a function, copyData(), that reads contents from the file EMPLOYEE.DAT and copies the records with Dept name as "Admin" to the file named ADMIN.DAT. The function should return the total number of records copied to the file ADMIN.DAT.
- OR
- (i) How are text files different from binary files?  
(ii) A Binary file, STUDENT.DAT has the following structure:  
{SNO:[SNAME, STYPE]} Where SNO – Student Number SNAME – Student Name STYPE is Student Type as 'old' or 'new'.  
Write a user defined function, findType(stype), that accepts stype as parameter and displays all the records from the binary file STUDENT.DAT, that have the value of Student Type as stype.
- 35 (i) Define the term Domain with respect to RDBMS. Give one example to support your answer. 1+4 = 5  
(ii) Kasmira wants to write a program in Python to insert the following record in the table named Patient in MYSQL database, HOSPITAL :
- pno(Patient number )- integer
  - Pname(Name) – string
  - DOB (Date of birth) – Date
  - Fee – float
- Note the following to establish connectivity between Python and MySQL:
- Username – root
  - Password – mouse
  - Host – localhost
- The values of fields pno, pname, DOB and fee has to be accepted from the user. Help Kasmira to write the program in Python.
- OR
- i) Give one difference between alternate key and candidate key.  
ii) Sameer has created a table named Patient in MYSQL database, HOSPITAL :
- pno(Patient number )- integer
  - Pname(Name) – string
  - DOB (Date of birth) – Date
  - Fee – float
- Note the following to establish connectivity between Python and MySQL:
- Username – root
  - Password – mouse
  - Host – localhost
- Sameer, now wants to display the records of patients whose fee is more than 15000. Help Sameer to write the program in Python.