VISAKAN SENIOR SECONDARY SCHOOL – CBSE

UNIT TEST – VI

SUBJECT: COMPUTER SCIENCE   **TOTALMARKS: 70**

CLASS: XII- A

General Instructions:

All questions are compulsory

1. Section A has 21 questions carrying 1 mark each
2. Section B has 7 very Short Answer type questions carrying 2 marks each.
3. Section C has 3 Short Answer Type questions carrying 3 marks each.
4. Section D has 4 Case Based Question carrying 4 marks.
5. Section E has 2 Long Answer Type question carrying 5 marks.
6. All programming questions are to be answered using python language only.
7. In case of MCQ, text of the correct answer should also be written.

SECTION – A

1. Identify the output of the following python statements –

```
S="GOOD MORNING"
print(S.capitalize(), S.title(),end='!')
```

   a) GOOD MORNING!Good morning   b) Good Morning!Good morning
   c)Good morning !Good Morning!   d) Good morning Good Morning!

2. What may be the output of the program given below:

```
import random
x = random.random()
y = random.randint(0,4)
print(int(x),":", y+int(x))
```

a) 0:0 b) 2:4 c) 1:2 d) 0:5

3. Predict the output of the following code:

```python
def add (num1, num2):
    sum = num1 + num2
sum = add(20,30)
print(sum)
```

a) 50 b) 0   c) Null d) None

4. Select the correct output of the code:

S="Amrit Mahotsav @ 75"

A=S.partition(" ")

print(A)

a) ('Amrit Mahotsav','@','75') b) ['Amrit','Mahotsav','@','75']

c) ('Amrit','Mahotsav @ 75') d) ('Amrit',' ', 'Mahotsav @ 75')

5. Given the following Tuple

Tup=(10,20,30,50)

Which of the following statements will result in an error?

a) print(Tup[0]) b) Tup.insert(2,3) c) print(Tup[1:2]) d) print(len(Tup))

6. Consider the given expression:

5<10 and 12>7 or not 7>4

Which of the following will be the correct output, if the given expression is evaluated?

a) True b) False c) NONE d) NULL

7. _____ function is used to arrange the elements of a list in ascending order.

a) sort() b) arrange() c) ascending() d) assort()

8. Which of the following operators will return either True or False?

a)+= b) != c) = d) *=

9. The syntax of seek() is:

File_object.seek(offset[,reference_point])

What is the default value of reference_point?

a)0   b) 1   c) 2   d) 3

10. What will the following expression be evaluated to in Python?

print(4+3*5/3-5%2)

a) 8.5   b) 8.0   c) 10.2   d) 10.0

11. Which of the following statement(s) would give an error after executing the following code?

```
1 stud={"Murugan":100,"Mithu":95}  #statement 1
2 print(stud[95])          #statement 2
3 stud["Murugan"]=99       #statement 3
4 print(stud.pop())        #statement 4
5 print(stud)              #statement 5
```

a) Statement 2 b) Statement 3   c) Statement 4   d) Statement 2 and 4

12. Which function returns the sum of all elements of a list?

a) count()   b) sum()   c) total()   d) add()

13. State whether the following statement is True or False:

An exception may be raised even if the program is syntactically correct.

14. Which of the following functions changes the position of file pointer and returns its new position?

a) flush()   b) tell()   c) seek()   d) offset()

15. What is the output of "hello"+1+2?

a) hello12 b) hellohellohello   c)Error   d) hello3

16. Write the statement in Python to declare a dictionary whose keys are 1,2,3 and values are Monday, Tuesday and Wednesday respectively.

17. What is the output of the following Python statements?

x=[[10.0,11.0,12.0],[13.0],14.0,15.0]]

y=x[1][2]

print(y)

a) 12.0 b) 13.0   c) 14.0 d) 15.0

18. Given a tuple tup1=(10,20,30,40,50,60,70,80,90).

What will be the output of print(tup1[3:7:2])?

a) (40,50,60,70,80)   b) (40,50,60,70)   c) [40,60] d) (40,60)

19. What will be the output of the following code?

Tup1=(1,2,[1,2],3)

Tup1[2][1]=3.14

print(Tup1)

a) 1,2,[3.14,2],3)   b) (1,2,[1,3.14],3)   c) (1,2,[1,2,3.14)   d) Error

Q20 and **Q21** 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

20. **Assertion(A):** The break statement can be used with all selection and iteration statements.
    Reason(B): Using break with an if statement will give no error.
21. **Assertion (A):** A variable declared inside a function cannot be used outside it.
    Reason (R): A variable created inside a function has a function scope.

SECTION - B

22. Write a user defined function in Python named Puzzle(W,N) which takes the argument W as an English word and N as an integer and returns the string where every Nth alphabet of the word W is replaced with an underscore("_").
    For example: Consider the following dictionary
    S={"AMIT":[92,86,64],"NAGMA":[65,42,43],"DAVID":[92,90,88]}
    The output should be:
    AMIT – B
    NAGMA – C
    DAVID - A

23. Rewrite the following code in Python after removing all the syntax errors. Underline each correction done in the code.

```
num1,num2=10,45
While
  num1%num2==0
    num+=20
    num2+=30
  Else:
    print('hello')
```

24. Write a function dispBook(BOOKS) in Python, that takes a dictionary BOOKS as an argument and displays the names in uppercase of those books whose name starts with a constant.
For example, Consider the following dictionary
BOOKS={1:"Python",2:"Internet Fundamentals",3:"Networking",4:"Oracle sets",5:"Understanding HTML"}
The output should be:
PYTHON
NETWORKING

25. Write a Python Program containing a function FindWord(STRING, SEARCH), that accepts two arguments: STRING and SEARCH, and prints the count of occurrence of SEARCH in STRING. Write appropriate statements to call the function.
For example if STRING="Learning history helps to know about history with interest in history" and SEARCH="history" the function should display The word history occurs 3 times.

26. Write a suitable Python statement for each of the following tasks using built-in functions/methods only
   (i)   To delete an element Mumbai:50 from Dictionary D.
   (ii)   To display words in a String S in the form of a list.

27. a) Given is a Python list declaration:
Listofnames=["Aman","Ankit","Ashish","Rajat"]
Write the output of:

print(Listofnames[-1:-4:-1])

b) Consider the following tuple declaration:

tup1=(10,20,30,(10,20,30),40)

Write the output of:

print(tup1.index(20))

28. Write the output of the code given below:

```
1 def short_sub(lst,n):
2     for i in range(0,n):
3         if len(lst)>4:
4             lst[i]=lst[i]+lst[i]
5         else:
6             lst[i]=lst[i]
7 subject=['CS','HINDI','PHYSICS','CHEMISTRY','MATHS']
8 short_sub(subject,5)
9 print(subject)
```

SECTION - C

29. Write a function in Python to read a text file, Alpha.txt and displays those lines which begin with the word 'You'.

30. Write a function, vowelCount() in Python that counts and displays the number of vowels in the text file named Poem.txt.

31. Write a function in Python, Push(Vehicles) where, Vehicle is a dictionary containing details of vehicles – (Car_name:Maker).
   The function should push the name of car manufactured by "TATA"(including all the possible cases like Tata,TATA, etc) to the stack.
   For example:
   If the dictionary contains the following data:
   Vehicle={"Santro":"Hyndai","Nexon":"TATA","Safari":"Tata"}
   The stack should contain
   Safari
   Nexon

SECTION - D

32. Sharmistha wants to write python functions:
    AddRecord() to add records of students storing student_ID, StudentName and Score.
    ShowReords() to display the records stored in the csv file.
    As a Python expert help her in writing the functions.
    Where,
    Student-ID: stores ID of the student
    StudentName: stores name of the student
    Score: stores score of the student

33. A list, NList contains following record as list elements:
    [City, Country, distance from Delhi]
    Each of these records are nested together to form a nested list. Write the following user defined functions in Python to perform the specified operations on the stack named travel.
    i) Push_element(NList): It takes the nested list as an argument and pushes a list object containing name of the city and country, which are not in INDIA and distance is less than 3000km from DELHI.
    ii) Pop_element(): It pops the object from the stack and displays them. Also, the function should display "Stack Empty" when there are no elements in the stack.
    For example: If the nested list contains the following data:
    NList=[["NewYork","USA",11734],["Naypyidaw","Myanmar",3219],
    ["Dubai","UAE",2194],["London","England",6693],["Gangtok","India",1580]
    ,["Columbo","Sri Lanka",3405]]
    The stack should contain:
    ['Naypyidaw','Myanmar'],[['Dubai','UAE'],],['Columbo','Sri Lanka']
    The output should be:
    ['Columbo','Sri Lanka']
    ['Dubai','UAE']
    ['Naypyidaw','Myanmar']
    Stack Empty

34. a)Predict the output of the Python code given below:(3)

```
1 Text1="IND-23"
2 Text2=""
3 l=0
4 while l<len(Text1):
5     if Text1[l]>=0 and Text1[1]<=9:
6         Val=int(Text1[l])
7         Val=Val+1
8         Text2=Text2+str(Val)
9     elif Text1[l]>="A" and Text1[l]<="Z":
10        Text2=Text2+(Text1[l+1])
11    else:
12        Text2=Text2+"*"
13 l+1
14 print(Text2)
```

b) What will be the output of the following.(1)

```
def ChangeVal(M,N):
    for i in range(N):
        if M[i]%5 == 0:
            M[i]//=5
        if M[i]%3 == 0:
            M[i]//=3

L = [25,8,75,12]
ChangeVal(L,4)
for i in L:
    print(i,end="#")
```

a)5#8#15#4#   b)5#8#5#4#   c)5#8#15#14# d) 5#18#15#4#

35. Write a program in Python that defines and calls the following user defined functions.
    i) add() – To accept and add data of an employee to a CSV file 'furdata.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.
    ii) search()- To display the records of the furniture whose price is more than 10000.

SECTION - E

36.a) Give any one point of difference between a binary file and a csv file.

b) Write a program in Python that defines and calls the following user defined functions:

i) ADD() – To accept and add data of an employee to a CSV file 'record.csv'. Each record consists of a list with field elements as empid, name and mobile to store employee id, employee name, and employee salary respectively.

ii) COUNTR() – To count the number of records present in the CSV file named 'record.csv'.

37. Aman is a Python programmer. He has written a code and created a binary file record.dat with employee id, ename and salary. The file contains 10 records.

He now has to update a record based on the employee id entered by the user and update the salary. The updated record is then to be written in the file temp.dat. The records which are not to be updated also have to be written to the file trmp.dat. If the employee id is not found, an appropriate message should to be displayed.

As a Python expert, help him to complete the following code based on the requirement given above.

```
 1 import _____                          #Statement 1
 2 def update_data():
 3     rec={}
 4     fin=open("record.dat","rb")
 5     fout=open("_____")            #Statement 2
 6     found=False
 7     eid=int(input("Enter employee id to update their salary:"))
 8     while True:
 9         try:
10             rec=_____               #Statement 3
11             if rec["Employee id"]==eid:
12                 found=True
13                 rec["Salary"]=int(input("Enter new salary:"))
14                 pickle._____            #Statement 4
15             else:
16                 pickle.dump(rec,fout)
17         except:
18             break
19 if found==True:
20     print("The salary of employee id",eid,"has been updated.")
21 else:
22     print("Employee with such id is not found")
23 fin.close()
24 fout.close()
```

i) Which module should be imported in the program?(Statement 1)

ii) Write the correct statement required to open a temporary file named temp.dat.(Statement 2)

iii) Which statement should Aman fill in statement 3 to read the data from the binary file, record.dat and in Statement 4 to write the updated data in the file, temp.dat?

ALL THE BEST