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. The output of the code will be:
   S=”wonders of world”
   print(s.count(‘o’)+s.index(‘o’))
   a) 3 b) 4 c) 2 d) 1
2. Which of the following are random number generators?
   a) randint() b) randrange() c) random() d) All of these
3. Which of the following are sequences of character data?
   a) Lists b)Tuples c) Strings d) Dictionaries
4. In which file, no delimiters are used for line and no translations occur?
   a)Text file b) Binary file c) CSV file d) None of these
5. State True or False
   “Multiple elements can be added at the end of list by the append method”.
6. These operators are used to make a decision on two conditions.
   a) Logical b) Arithmetic c) Relational d) Assignment

7. a=1.0
   b=1.0
   a is b # Line 1
   Output of line 1 will be
   a) False b) True c) 1.0 d) 0.0
8. In a complex number a+ib, a represents as
   a) real part b) imaginary part c) special part d) None of these
9. a=6
   b=5.5
   sum=a+b
   print(sum)
   print(type(sum))
   a) 11.5 b) 10.5 c) None d) None of these
   <class 'float'><class 'float'><class 'int'>
10. _____ method takes a string and writes it in the file.
    a) writelines() b) write() c) writerow() d) writer()
11. What will be the output of the following?

```
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#
12. When is the finally block executed?
    a) When there is no exception
    b) When there is an exception
    c) Only if some condition that has been specified is satisfied
    d) always

13. What will be the output of the following Python code?

```
def foo():
    try:
        print(1)
    finally:
        print(2)
foo()
```

a) 1 2 b) 1 c) 2 d) none of the mentioned

14. You are building a web scraping program that extracts data from a website. Implement exception handling to handle cases where the website is down or unreachable.

Question:

How would you handle the scenario where the website is down or unreachable?

a) Use a try-except block to catcha `ConnectionError` and display an error message.
b) Use a try-except block to catcha `FileNotFoundError` and display an error message.
c) Use a try-except block to catcha `TypeError` and display an error message.
d) Use a try-except block to catcha `ValueError` and display an error message.

15. Consider the following scenario:

You need to read the contents of a text file into a list in Python, excluding any emptylines. Which approach should you take?

a) Read the file using`file.read()`and then remove empty lines using a loop.
b) Usethe`file.readlines()`methodtoreadthefileintoalistandremoveemptylinesusinga loop.
c) Usethe`file.read().splitlines()`methodtoreadthefileintoalist,whichautomatically excludes empty lines.
d) Read the file using `file.read()` and then use the `filter()` function to remove empty lines from the resulting list.

16. What does the following code snippet do?

```
try:
   x=int("abc")
except ValueError:
   print("Invalid literal for int()")
finally:
   print("Finally block executed")
```

a) Attempts to convert a string to an integer and prints an error message if it fails
b) Prints "Finally block executed" regardless of the outcome
c) Raises a ValueError exception
d) Terminates the program

17. 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)

18. Which of the given argument types can be skipped from a function call?
a) positional arguments b) keyword arguments
c) named argumentsd) defaultarguments

19. If the file contains "Guido van Rossum is a Dutch programmer best known as the creator of the Python programming language"then what will be the output of this program?

```
fname=input("Enter file name ")
f=open(fname,"a")
print(f.tell())
```

a. 100 b) 101 c) 102 d)3

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):** Exception handling is responsible for handling

anomalous situations during the execution of a program.
Reason(R): Exception handling handles all types of errors and exceptions.

21. **Assertion (A):** The break statement can be used with all selection and iteration statements.
Reason(R): Using break with if statement will give no error.

SECTION - B

22. Write a python function which takes list of numbers from the user and returns the list of prime numbers only out of the argument list.
E.g. : if[5,60,12,31,17,1,56,98,0,32] is passed to the list should return [5,31,17]

23. Manoj is a python programmer, he has to write a function CalcInterest(), he defined it as:

```
def CalcInterest (Principal, Rate=1.2,Time):
```

But his codeis not working, can you help Manoj to identify the error in the above function and provide a solution.

24. Considerthefollowingcodelinenumbershavebeengivenforyourreference.

```
1. defpower(b,p):
2.  y=b**p
3.  returny
4.
5. defcalcSquare(x):
6.  a=power(x,2)
7.  returna
8.
9.  n=5
10. result= calcSquare(n)
11. print(result)
```

i) Write the flow of execution for above code.

25. Predict the output of the Python code given below:

```
def Diff(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(Diff(A,B),'#',end='')
```

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

```
tuple1=(11,22,33,44,55,66)
list1=list(tuple1)
new_list=[]
for i in list1:
    if i%2==0:
        new_list.append(i)
new_tuple=tuple(new_list)
print(new_tuple)
```

27. Write the output of the code given below:

```
a=30
def call(x):
    global a
    if a%2==0:
        x+=a
    else:
        x-=a
    return x
x=20
print(call(35), end="#")
print(call(40), end="@")
```

28. Write the output of the code given below:

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

SECTION - C

29. Write a function count_Dwords() inPython to count the words ending with a digit in a text file "Details.txt".
    If the file content is as follows:
    On seat2 VIP1 will sit and
    On seat1 VVIP2 will be sitting
    Output will be:
    Number of words ending with a digit are 4

30. Write a functions EOReplace() in Python, which accepts a list L of numbers. Thereafter, it increments all even numbers by 1 and decrements all odd numbers by 1.
    Example:
    If sample Input data of the list is:
    L=[10,20,30,40,35,55]
    Output will be:
    L=[11,21,31,41,34,54]

31. A list contains following record of customer.
    [Customer_name, Room Type]
    Write the following user defined functions to perform given operations on the stack name'Hotel':
    i) Push_Cust() – To Push customer names of those customers who are staying in 'Delux' Room Type.

ii)Pop_Cust() – To Pop the names of customers from the stack and display them. Also, display "Underflow" when there are no customers in the stack.
For example:
If the lists with customer details are as follows:
["Siddarth", "Delux"]
["Rahul","Standard"]
["Jerry","Delux"]
The stack should contain
Jerry
Siddarth
The output should be:
Jerry
Siddarth
Underflow

SECTION – D

32.a) What possible output(s) are expected to be displayed on screen at the time of execution of the following program? (2)

```
import random
M=[5,10,15,20,25,30]
for i in range(1,3):
    first=random.randint(2,5)-1
    sec=random.randint(3,6)-2
    third=random.randint(1,4)
    print(M[first],M[sec],M[third],sep="#")
```

i)10#25#15
20#25#25

ii) 5#25#20
25#20#15

iii) 30#20#20
20#25#25

iv)10#15#25#
15#20#10#

b) Predict the output of the code given below: (2)

```
def makenew(mystr):
    newstr=""
    count=0
    for i in mystr:
        if count%2!=0:
            newstr=newstr+str(count)
        else:
            if i.lower():
                newstr=newstr+i.upper()
            else:
                newstr=newstr+i
        count+=1
    print(newstr)
makenew("No@1")
```

33. a)Why is important to close a file before exiting?(2)

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

i) Add_Book(): Takes the details of the books and adds them to a csv file 'Book.csv'. Each record consist of a list with field elements as book_ID, B_name and pub to store book ID, book name and publisher respectively.

ii) Search_Book(): Takes publisher name as input and counts and displays number of books published by them.(2)

34. a) Differentiate between r+ and w+ file modes in Python.(2)

b) Consider a file, SPORT.DAT, containing records of the following structure:
[SportName, TeamName, No_Players]

Write a function, copyData(), that reads contents from the file SPORT.DAT and copies the records with Sport name as "Basket Ball" to the file named BASKET.DAT. The function should return the total number of records copied to the file BASKET.DAT. (2)

35. a)Write a function in Python to read a text file, Alpha.txt and displays those lines which begin with the word 'You'.(2)

b) Write the Python statement for the following task using BUILT – IN functions/ methods only:
i) To insert an element 200 at the third position, in the list L1. (2)

SECTION – E

36.a) Write one difference between CSV and text files.
b) Write a program in Python that defines and calls the following user defined functions:
i) COURIER_ADD(): It takes the values from the user and adds the details to a csv file 'courier.csv'. Each record consist of a list with field elements as cid, s_name, source, destination to store Courier ID, Sender name, Source and destination address respectively.
ii) COURIER_SEARCH(): Takes the destination as the input and displays all the courier records going to that destination.

37. Shreyas is a programmer, who has recently been given a task to write a user defined function named write_bin() to create a binary file called Cust_file.dat containing customer information – customer number(c_no), name(c_name), quantity(qty), price(price) and amount(amt) of each customer.
The function accepts customer number, name, quantity and price. Thereafter, it displays the message 'Quantity less than 10 … cannot SAVE', if quantity entered is less than 10. Otherwise the function calculates amount as price * quantity and then writes the record in the form of a list into the binary file.

```
1  import pickle
2  def write_bin():
3      bin_file=_____ #statement 1
4      while True:
5          C_no=int(input("Enter customer number"))
6          C_name=input("Enter customer name")
7          qty=int(input("Enter price"))
8          if _____:       #statement 2
9              print("Quantity less than 10.. Cannot SAVE")
10         else:
11             amt=price * qty
12             c_detail=[c_no,c_name,qty,price,amt]
13             _____      #statement 3
14             _____      #statement 4
15     _____          #statement 5
16 _____              #statement 6
```

i) Write the correct statement to open a file 'Cust_file.dat' for writing the data of the customer.

ii) Which statement should Shreyas fill in Statement 2 to check whether quantity is less than 10.

iii) Which statement should Shreyas fill in statement 3 to write data to the binary file and in Statement 4 to stop further processing if the user does not wish to enter more records?

ALL THE BEST