```
print(x)
print(y)
```

7. (a) Write a program to accept a string from the user. Replace all the vowels in the given string with the symbol "*" and spaces with "–". Display the modified string. (5)

   (b) Write a program to check if the entered string is a palindrome or not. (5)

8. (a) Write a function that accepts a string as a parameter and computes the sum of all digits present in it. If there are no digits in the string, the function should return the value 0. (5)

   (b) Given a stack s = [2,3,4]. Pictorially represent the following operations on this stack. (5)

   push 9, pop, pop, pop, push 5, push 2, pop, pop, pop, pop

[This question paper contains 8 printed pages.]

10/12/22 (E)

Your Roll No..............

Sr. No. of Question Paper : 1758   C

Unique Paper Code   : 32345104

Name of the Paper   : Programming Using Python

Name of the Course   : Computer Science : G.E. for Honours

Semester   : I

Duration : 3 Hours   Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. Question No. **1** is compulsory.

3. Attempt any **five** questions out of Q. **2** to Q. **8**.

4. Parts of a question must be answered together.

1. (a) Draw a block diagram to illustrate the basic organization of a computer system. (2)

   (b) What is the output of following snippet: (2)

```
x, y = 0, 4

x, y = y + x, 2

print(x)

print(y<<2)
```

(c) Identify the error in following code snippet: (2)

```
grade= {"A+", "A", "A-"}

grade1 = grade + {1}

print(grade1)

print(grade[2:])
```

(d) A tuple t is defined as   (2)

```
t = (1, 2, 3, [40, 50], 9)
```

Give the output/indicate error in each of the following code snippets :

  (i) t[3] [0] = 100

      print(t)

  (ii) t[1] [1] = '2'

      print(t)

(e) Explain exception handling with the help of an example.   (2)

  (i) t[2] = 100

  (ii) t[3] [0] = 100

(c) Explain the use and working of destructors in Python with the help of an example.   (3)

6.   Write the output of the following code snippets :

                                      (4+2+4=10)

(a)
```
L1 = list()
L2 = list()
for i in range (1,5):
    L1.append(i**2)
    L2.append (i>>2)
print(L1, L2)
```

(b)
```
SqSum=0
for i in range(1,10,1) :
    SqSum+=i*i
print(SqSum)
```

(c)
```
m=n=14
x=y=20
if m<10:
    if b>5:
        x+=1
    else:
        y+=1
```

quantity : Quantity of the item available in the stock

The class should support the following methods:

   (i) purchase() for updating the quantity after a purchase made by the customer. The method should take the number of items to be purchased as an input.

   (ii) increaseStock() for updating the quantity of an item for which newstock has arrived. The method should take the number of items to be added as an input.

   (iii) display() that displays information about an item.

5.   (a) Given a string s='Python Programming' what is the output of following statements :   (4)

    (i) print(S[:10] + S[10:])

    (ii) print(S[0:10:2])

    (iii) print(S[−5:])

    (iv) print(S[0:10:2])

  (b) Given the tuple t = (1, 2, 3, [40, 50], 9) identify the errors, if any, in the following expressions. Give reasons.   (3)

(f) Consider the string match = "India v/s England !!". Determine the output of the following statements :

    (i) print (match. lower())

    (ii) print (match[: : 2])   (2)

(g) Write a program to display all duplicate items from the list given below :   (2)

sample_list=[10, 20, 60, 30, 20, 40, 30, 60, 70, 80]

(h) Write a function to find the maximum of five numbers.   (2)

(i) Evaluate the following expression   (2)

$3**3\%10 - 5*18 \; //5 + 15$

(j) Write full form of the following term :   (2)

    (i) RAM

    (ii) EPROM

    (iii) ROM

    (iv) EEPROM

(k) List any two membership operators.   (2)

(l) What is the result on execution of the following two expressions :   (1)

x=10 and x==10.

(m) Differentiate between append() and extend().

(2)

2. (a) Write a program that takes a sentence as input from the user and computes the frequency of each letter. Use a variable of dictionary type to maintain the count. (4)

(b) Write a program to print the following pattern. The number of lines to be printed may be accepted from the user as an integer n. (4)

```
*

* *

* * *

* * * *

* * * * *
```

(c) Write the code to convert the given list L1 to tuple L1 = [1, 2, 3, 4, 5] (2)

3. (a) Write a program to accept a positive integer of four digit as an input and return the reverse of it. If negative integer is entered by the user then ask again enter a positive integer. (5)

(b) Write a function areaTriangle that takes the lengths of three sides: (5)

side1, side2, and side3 of the triangle as the input parameters and returns the area of the triangle as the output. Also, assert that sum of the length of any two sides is greater than the third side. Write a function main that accepts inputs from the user interactively and computes the area of the triangle using the function areaTriangle.

4. (a) For the given sets A={1, 2, 3, 4, 5, 6, 7} and B={2, 4, 6, 8, 10} write the output of following statements: (4)

(i) A.union(B)

(ii) A−A.intersection(B)

(iii) A.symmetric_difference(B)

(iv) A−B

(b) Define a class item that keeps track of items available in the shop. The class should contain the following data members: (6)

name : Name of the item

price : Price of the item