1. From the program code given below, identify the parts mentioned below:

```
def processNumber (x) :
    x = 72
    return x + 3
y = 54
res = processNumber (y)
```

Identify these parts: function header, function call, actual arguments, formal parameters, function body , main program.

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

```
def Alter(M, N = 50) :
    M = M + N
    N = M − N
    print ( M, "@",N)
    return M
A = 200
B = 100
A = Alter (A, B)
print (A, "#", B)
B = Alter (B)
print (A, "@", B)
```

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

```
def drawline (char =`$' , time=5):
    print (char*time)
drawline ()
drawline (^ prime 0' ,10)
drawline (65)
drawline (chr (65))
```

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

```
def Funl (mylist):
    for i in range (len (mylist)):
        if mylist [i]%2= =0:
            mylist[i]/=2
        else:
            mylist[i]*=2
listl=[21,20,6,7,9,18,100,50,13]
Funl (list1)
print (list1)
```

5. Write a function compute_volume( ) that:

(i) Asks the user to input a diameter of a sphere (centimetres, inches, etc.)

(ii) Sets a variable called radius to one-half of that number

(iii) Calculates the volume of a sphere using this radius and the formula: Volume = 4/3 * pi * r* 3

(iv) Prints a statement estimating the volume of the sphere, include the appropriate unit information litres or quarts, (Note that there are 1000 cubic cm in a litre and 57.75 cubic inches in a quart.)

(v) Returns this same amount as the output of the function.

6. Write a Python function to sum all the numbers in a list.
   Sample List: [4, 6, 3, 5, 6]
   Expected Output: 24

7. Write a Python program to reverse a string .
   Sample String "python123" Expected Output: "21nohtyp

8. Write a Python function that accepts a string and calculates the number of uppercase letters and lowercase letters.
   Sample String: Python Programming
   Expected Output:
   Original String: Python Programming
   No. of Uppercase characters
   No. of Lowercase characters: 14

9. Write a Python program to print the even numbers from a given list.
   Sample List: [1, 2, 3, 4, 5, 6, 7, 8, 9]
   Expected Result: [2, 4, 6, 8]

10. Consider the following function that takes two positive integer parameters a and b.
    Answer the following questions based on the code below.

```
def funcl (a,b):
    if a > 1:
        if a % b = = 0:
            print(b, end= ' ')
            funcl(int(a/b), b)
        else:
            funcl (a, b+1)
```

   (a) What will be printed by the function call func1 (24, 2)?
   (b) What will be printed by the function call func1 (84, 2)?
   (c) State in one line what func1() is trying to calculate.

11. Find the errors in the code given below:

```
 def minus (total, decrement)
        output = total decrement
        print (output)
        return (output)
```

12. define check ( )

   N = input ('Enter N:'_

   I = 3

   Answer = 1 + i ** 4/N

Return answer

13. Def alpha (n, string = ' xyz' , K = 10) :

        return beta (string)

        return n

def beta (string)
      Return string == str(n)
print (alpha ("Valentine's Day"))
print (beta (string = 'true'))
print (alpha (n = 5 , " Good −bye"):))

14. Predict the output of the following codes.
def code (n):
    if n ==0:
       print ('Finally')
    else:
       print (n)
  code (n-3)
  code (15)

15. def code (n):
    if n ==0
       print('Finally)
    else:
       print (n)
  code (n - 2)
  code (15)

16. def code (n) :
    if n ==0
       print ("Finally').
    else:
       print (n)
  code (10)

17. def code (n) :
    if n ==0:
      print ("Finally')
    else:
       print(n)
       print (n-3)
  code (10)

18. def check(K,L=70):
    if (K>L):
      K-=L

```
        else:
                K+=L
    M= 100
    N=40
    check(M,N)
    print(M, "#",N)
    check(M)
    print(N, "#",M)
```

19. Find Error and rectify the script.

```
    def show(n, str= "good",k=5):
            return display(str)
            retrun n
    def display (str)
            return str==str[5]


    print(show("children's Day "))
    print(display(str='true'):)
    print(show(5,"Good"))
```

20. Traffic accidents occur due to various reasons. While problems with roads or inadequate safety facilities lead to some accidents, majority of the accidents are caused by drivers' carelessness and their failure to abide by traffic rules.

ITS Roadwork is a company that deals with manufacturing and installation of traffic lights so as to

minimize the risk of accidents. in view the requirements, traffic simulation is to be done Write a program in Python that simulates a traffic light. The program should perform the following:-

(a) A user-defined function trafficLight() that accepts input from the user, displays an error message if

the user enters anything other than RED, YELLOW and GREEN. Function light() is called and the following is displayed depending upon return value from light():

(i) "STOP, Life is more important than speed" if the value returned by light() is 0.

(ii) "PLEASE GO SLOW." if the value returned by light() is 1

(iii) "You may go now." if the value returned by light() is 2

(b) A user-defined function light() that accepts a string as input and returns 0 when the input is RED, 1 when the input is YELLOW and 2 when the input is GREEN. The input should be passed as an argument.

(c) Display "BETTER LATE THAN NEVER" after the function trafficLight() is executed.