**PYTHON**

(Worksheet-2)

1. (B)

2. (C)

3. (A)

4. (A)

5. (C)

6. (C)

7. (A)

8. (B)

9. (A,B,D)

10. (A,C,D)

11. **LIST:** list is a way to write a collection of values separated by comma in a square brackets. It contains heterogeneous datatype. Lists are mutable. We can change the individual elements of a list.

**TUPLE:** tuple is represented by a collection of values separated by comma in a round brackets. Tuples are immutable. We cannot change the elements of an existing tuple.

**SET: -** A set is a collection which is unordered and unindexed. In Python sets are written with curly brackets.A set is immutubale except that object can be appended to the set.

**DICTIONARY:** dictionary is represented by key-value pairs in a curly brace where all the keys are unique within a single dictionary. Each key is separated from its value by a colon and items are separated by comma. The values of a dictionary can be of any type but the keys must be an immutable type.

12. Mutable means we can change the contents of the object without changing their identity. But in python we cannot change an existing string. So, strings are not mutable. They are immutable.

Program: #replace + with space in string I+Love+Python

string= "I+Love+Python"

new\_string=string.replace('+'," ")

print(new\_string)

13. Function allows us to not have to write the code over and over. We can write the code inside a function and call it. It executes the same code a number of times as per our requirement which prevent us to write the same code to that number of times.

Program: #getting the datatype of a variable in python

def data\_type(a):

print(type(a))

a=10

data\_type(a)

14. #solving a quadratic equation

import cmath

a =int(input("enter the value of a:"))

b = int(input("enter the value of b:"))

c = int(input("enter the value of c:"))

if(a==0):

print("value of a can't be zero")

if(a!=0):

d = (b\*\*2) - (4\*a\*c)

# find two solutions

root1 = (-b-cmath.sqrt(d))/(2\*a)

root2 = (-b+cmath.sqrt(d))/(2\*a)

print('The solution are {0} and {1}'.format(root1,root2))

15. #sum of first ‘n’ natural numbers without using any loop

n=int(input("enter a number:"))

if n<0:

print("enter a positive number")

else:

temp=n\*(n+1)

sum=temp/2

print("the sum is:",sum)