# Answer sheet (Python)

```
# Question  1


class Circle:

    def __init__(self,radius,pi=3.14):
        self.radius = radius
        self.pi = pi
    def area_Circle(self):
        self.Area = self.pi * (self.radius**2)
        return self.Area
    def perimeter_Circle(self):
        self.Perimeter = 2 * self.pi * self.radius
        return self.Perimeter

    def display(self):
        print("Area of Circle = ",self.Area)
        print("perimeter of Circle = ",self.Perimeter)
r=int(input("Enter the value of radius:"))
circle = Circle(r)
circle.area_Circle()
circle.perimeter_Circle()
circle.display()
```

```
OUTPUT:

Enter the value of radius:6
Area of Circle =  113.04
perimeter of Circle =  37.68
```

```
# Question 2

class Calculator:
    def __init__(self,num1,num2):
        self.num1=num1
        self.num2=num2

    def add(self):
        print (self.num1 + self.num2)

    def sabtract(self):
        print(self.num1 - self.num2)
```

```
    def multiply(self):
        print(self.num1 * self.num2)


    def divide(self):
        if self.num2 == 0:
            print("Infinite")
        else:
            print(self.num1 / self.num2)



  def main(self):
        print("1.Add\n2.Sub\n3.Multi\n4.Div")
        ch=int(input("Enter the operation:"))

        if ch==1:
            c.add()
        elif ch==2:
            c.sabtract()
        elif ch==3:
            c.multiply()
        elif ch==4:
            c.divide()
        else:
            print("Please enter the correct operation.")

n1=int(input("Enter the num1"))
n2=int(input("Enter the num2"))
c=Calculator(n1,n2)
c.main()
```

OUTPUT:

```
Enter the num15
Enter the num25
1.Add
2.Sub
3.Multi
4.Div
Enter the operation:3
25
```

# Question 3

```
class Bank:
    def __init__(self,account_number,balance):
        self.account_number = account_number
        self.balance = balance

    def deposit(self,amount):
        if amount>0:
            self.balance += amount
            print( f"Deposited {amount}   balance {self.balance}")

    def withdraw(self,amount):
        if self.balance >= amount:

            self.balance -= amount

            print(f"Withraw {amount}   balance  {self.balance}")


    def check_balance(self,account_num):

        if self.account_number == account_num:

            print( f"Total balance of your account = {self.balance}")

        else:

            print("Wrong  Account number ")


bank = Bank(3435675,100)

bank.deposit(400)

bank.withdraw(300)

bank.check_balance(3435675)
```

OUTPUT:

```
Deposited 400   balance 500
Withraw 300   balance  200
Total balance of your account = 200
```

```
# Question 4

import math
class Shape:
    def area():
        pass
    def perimeter():
        pass
    class Circle:
    def __init__(self,radius,pi=3.14):
        self.radius=radius
        self.pi=pi
    def area_circle(self):
        Area = self.pi * (self.radius**2)
        return Area
    def perimeter_circle(self):
        Perimeter = 2 * self.pi * self.radius
        return Perimeter
    class Triangle:
    def __init__(self,a1,a2,a3):
        self.a1=a1
        self.a2=a2
        self.a3=a3

    def area_triangle(self):
        s=(self.a1+self.a2+self.a3)/2
        Area = math.sqrt(s*(s-self.a1)*(s-self.a2)*(s-self.a3))
        return Area
     def perimeter_triangle(self):
        Perimeter = self.a1+self.a2+self.a3
        return Perimeter
class Square:
    def __init__(self,a):
        self.a=a

    def area_square(self):
        Area = self.a**2
        return Area

    def perimeter_square(self):
        Perimeter = self.a*4
```

```
        return Perimeter

c=Circle(3)
print("Circle Area = ",c.area_circle())
print("circle Perimeter=",c.perimeter_circle())

t=Triangle(3,4,5)
print("\nTriangle Area = ",t.area_triangle())
print("Triangle Perimeter=",t.perimeter_triangle())

s=Square(5)
print("\nSquare Area = ",s.area_square())
print("Square Perimeter=",s.perimeter_square())
```

OUTPUT:

```
Circle Area =  28.26
circle Perimeter= 18.84

Triangle Area =  6.0
Triangle Perimeter= 12

Square Area =  25
Square Perimeter= 20
```

# Question 5

```
num1=int(input("Enter the first number:"))
num2=int(input("Enter the second number:"))
num3=int(input("Enter the third number:"))

if (num1>num2) and (num1>num3):
   print(f"{num1} is greater than {num2} and {num3}.")

elif (num2>num3) and (num2>num1):
   print(f"{num2} is greater then {num1} and {num3}.")

else:
   print(f"{num3} is greater than {num1} and {num2}.")
```

```
OUTPUT:

Enter the first number:5
```

```
Enter the second number:7
Enter the third number:3
7 is greater then 5 and 3.
```

# Question 6

```
String = "1234abcd"
s=String[::-1]
print(s)
```

OUTPUT:

```
dcba4321
```

# Question 7

```
dict = {"name":["priya","tanu","shreya"], "age":[22,21,23],
"subject":["maths","science","hindi"], "rollno":[75,98,23]}
print(len(dict))


for i in dict.items():
   print(i)
```

```
OUTPUT:

4
('name', ['priya', 'tanu', 'shreya'])
('age', [22, 21, 23])
('subject', ['maths', 'science', 'hindi'])
('rollno', [75, 98, 23])
```

# Question 8

```
x=int(input("Enter the value of x:"))
y=int(input("Enter the value of y:"))
add=lambda x: x+15
print(add(x))
mul=lambda x,y: x*y
print(mul(x,y))
```

OUTPUT:

```
Enter the value of x:5
Enter the value of y:7
20
35
```

# Question 9

```
number = [1,2,3,4,5,6,7,8,9,10]
en=list(filter(lambda x: x%2==0, number))
od=list(filter(lambda x: x%2!=0,number))
print("Enen numbers from the siad list:\n", en)
print("\nOdd numbers from the said list:\n",od)
```

```
OUTPUT:

Enen numbers from the siad list:
 [2, 4, 6, 8, 10]

Odd numbers from the said list:
 [1, 3, 5, 7, 9]
```

# Question 10

```
numbers = [1,2,3,4,5,6,7,8,9,10]
square = list(map(lambda x: x**2,numbers))
print("Square every number of the said list:\n",square)
qube = list(map(lambda x: x**3,numbers))
print("\nCube every number of the said list:\n",qube)
```

OUTPUT:

```
Square every number of the said list:
 [1, 4, 9, 16, 25, 36, 49, 64, 81, 100]

Cube every number of the said list:
 [1, 8, 27, 64, 125, 216, 343, 512, 729, 1000]
```