Q1. What is the meaning of multiple inheritance?

Ans: Inheritance is nothing but reusing the code of Parent class by the child class. Similarly when a child class inherits its properties from multiple Parent classes this scenario is called Multiple Inheritance

class Parent\_one:

pass

class Parent\_two:

pass

class child(Parent\_one,Parent\_two):

pass

Q2. What is the concept of delegation?

Ans: Delegation provides a proxy object for any class that you want on top of the main class. its like a wrapper to your class so that you can access limited resources of the main class.

it Wraps the object of main class into a smaller object with limited access

Simply Delegation means that you can include a instance of another class as an instance variable, and forward messages to the instance.

class Myclass:

def sayHi(self):

print('Hey iam back')

def whoAmI(self):

print('Iam the main class')

class NewClass:

def \_\_init\_\_(self,obj):

self.main = obj

def welcome(self):

self.main.sayHi()

m = Myclass()

n = NewClass(m)

m.sayHi()

n.main.sayHi()

n.welcome()

n.main.whoAmI()

Hey iam back

Hey iam back

Hey iam back

I Am the main class

Q3. What is the concept of composition?

Ans: In the concept of Composition, a class refers to one or more other classes by using instances of those classes as a instance variable. irrespective of inheritance in this approach all the parent class members are not inherited into child class, but only required methods from a class are used by using class instances.

class Salary:

def \_\_init\_\_(self,pay):

self.pay = pay

def get\_total(self):

return self.pay\*12

class Employee:

def \_\_init\_\_(self,pay,bonus):

self.pay = pay

self.bonus = bonus

self.obj\_salary = Salary(self.pay)

def annual\_salary(self):

return Total Salary : {str(self.obj\_salary.get\_total())}'

obj\_emp = Employee(800,500)

print(obj\_emp.annual\_salary())

Total Salary : 9600

Q4. What are bound methods and how do we use them?

Ans: If a function is an attribute of class and it is accessed via the instances, they are called bound methods. A bound method is one that has self as its first argument. Since these are dependent on the instance of classes, these are also known as instance methods.

class Test:

def method\_one(self): # bound method

print("Called method\_one")

@classmethod

def method\_two(cls): # unbound method

print("Called method\_two")

@staticmethod

def method\_three(): # static method

print("Called method\_three")

test = Test()

test.method\_one() # accessing through instance object

test.method\_two() # accessing through instance object

Test.method\_two() # accessing directly through class

Test.method\_three() # accessing directly through class

Called method\_one

Called method\_two

Called method\_two

Called method\_three

Q5. What is the purpose of pseudo private attributes?

Ans: Pseudo Private attributes are also useful in larger frameworks or tools, both to avoid introducing new method names that might accidentally hide definitions elsewhere in the class tree and to reduce the chance of internal methods being replaced by names defined lower in the tree. If a method is intended for use only within a class that may be mixed into other classes, the double underscore prefix ensures that the method won't interfere with other names in the tree, especially in multiple-inheritance scenarios

Pseudo Private names also prevent subclasses from accidentally redefining the internal method's names,

class Super:

def method(self): # A real application method

pass

class Tool:

def \_method(self): # becomes \_Tool\_method

pass

def other(self): # uses internal method

self.\_method()

class Subl(Tool,Super):

def actions(self):

self.method()

class Sub2(Tool):

def \_\_init\_\_(self):

self.method = 99