Q1. What is the meaning of multiple inheritance?

Multiple inheritance is a feature in object-oriented programming languages that allows a class to inherit attributes and behaviors from multiple parent classes. In other words, a class can inherit from more than one superclass, acquiring the characteristics of each parent class.

Q2. What is the concept of delegation?

Delegation is a programming concept in which an object forwards or delegates a particular task or responsibility to another object to perform the required operation. Instead of implementing the functionality directly, the object delegates the responsibility to another object, known as the delegate, which specializes in that specific task.

In delegation, the delegating object maintains a reference to the delegate object and invokes the delegate's methods to handle the delegated task. This allows the delegating object to offload specific responsibilities to the delegate, promoting modularity and separation of concerns

Q3. What is the concept of composition?

Composition is a fundamental concept in object-oriented programming that involves building complex objects by combining or composing simpler objects as their parts. It allows objects to be composed of other objects, creating a whole that is greater than the sum of its parts.

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

In Python, a bound method is a method that is associated with an instance of a class. When a method is accessed through an instance, it becomes a bound method, and the instance is automatically passed as the first argument (self) to the method

Q5. What is the purpose of pseudoprivate attributes?

The purpose of pseudoprivate attributes, also known as name mangling, is to provide a form of name protection or name hiding within a class. Pseudoprivate attributes are not truly private in the sense that they cannot be accessed from outside the class, but they are intended to be used within the class and its subclasses.

In Python, pseudoprivate attributes are defined by prefixing a double underscore (\_\_) to the attribute name. This triggers a name mangling mechanism that modifies the attribute name to make it less accessible from outside the class. The actual name of the pseudoprivate attribute is transformed by adding a prefix of \_classname to it, where classname is the name of the class itself