**PYTHON ADVANCED THEORY ASSIGNMENT 2**

Q1. Modules are files present inside a package, whereas a class is used to encapsulate data and functions together inside the same unit.

Q2. The new operator requires a single, postfix argument: a call to a constructor. The name of the constructor provides the name of the class to instantiate. The new operator returns a reference to the object it created.

Q3. Class attributes belong to the class itself they will be shared by all the instances. Such attributes are defined in the class body parts usually at the top, for legibility.

Q4. Instance attributes are defined in the constructor. Defined directly inside a class. Defined inside a constructor using the self parameter

Q5. Self represents the instance of the class. By using the “self” keyword we can access the attributes and methods of the class in python. It binds the attributes with the given arguments

Q6. To perform operator overloading, Python provides some special function or magic function that is automatically invoked when it is associated with that particular operator. For example, when we use + operator, the magic method \_\_add\_\_ is automatically invoked in which the operation for + operator is defined.

Q7. It allows you to provide an intuitive interface to users of your class, plus makes it possible for templates to work equally well with classes and built-in/intrinsic types. Operator overloading allows C/C++ operators to have user-defined meanings on user-defined types (classes).

Q8. A very popular and convenient example is the Addition (+) operator.Just think how the '+' operator operates on two numbers and the same operator operates on two strings. It performs “Addition” on numbers whereas it performs “Concatenation” on strings.

Q9. In order to develop robust and well-designed software products with Python, it is essential to obtain a comprehensive understanding of OOP. In this article, we will elaborate on two key concepts of OOP which are inheritance and polymorphism.