**Assignment # 6**

**Question 1:**

Define Object Oriented Programming Language?

**Object Oriented Programming Language**

Object-oriented programming, or OOP, is an approach to problem solving where all computations are carried out using objects. An object is a component of a program that knows how to perform certain actions and how to interact with other elements of the program. Objects are the basic units of object-oriented programming.Object-oriented programming (OOP) refers to a type of computer programming (software design) in which programmers define the data type of a data structure, and also the types of operations (functions) that can be applied to the data structure

**Question 2:**

List down the Benefits of OOP?

**Benefits of OOP**

* It provides a clear modular structure for programs which makes it good for defining abstract data types in which implementation details are hidden.
* Objects can also be reused within an across applications.
* It makes software easier to maintain.
* Reuse also enables faster development.

**Question 3:**

Differentiate between function and method?

**Difference between function and method**

Method and a function are the same, with different terms.

A method is a procedure or function in object-oriented programming. A method is a piece of code that is called by a name that is associated with an object.

While function is a group of reusable code which can be called anywhere in your program.

This eliminates the need for writing the same code again and again. It helps programmers in writing modular codes.A function is a piece of code that is called by name. It can be passed data to operate on (i.e. the parameters) and can optionally return data (the return value). All data that is passed to a function is explicitly passed.

**Question 4:**

Define the following terms:

1. Class

2. Object

3. Attribute

4. Behavior

**Class**

In object-oriented programming, a class is a template definition of the method s and variable s in a particular kind of object. Thus, an object is a specific instance of a class; it contains real values instead of variables. ... A class can have subclasses that can inherit all or some of the characteristics of the class.

**Object**

In object-oriented programming (OOP), objects are the things you think about first in designing a program and they are also the units of code that are eventually derived from the process. In between, each object is made into a generic class of object and even more generic classes.

**Attribute**In Object-oriented programming (OOP), classes and objects have attributes. Attributes are data stored inside a class or instance and represent the state or quality of the class or instance. In short, attributes store information about the instance.

**Behavior**

A class's behavior determines how an instance of that class operates; for example, how it will "react" if asked to do something by another class or object or if its internal state changes. Behavior is the only way objects can do anything to themselves or have anything done to them.