Module : 4.1

Q.2 What is OOP? List OOP concepts?

Ans : OOP : Object-Oriented Programming. The main programming unit of OOP is the object. An object is a representation of a real –time entity and consists of data and methods or functions that operate on data. Object Oriented Programming allows decomposition of program into a number of entities called objects and then builds data and function around these objects.

List OOP Concepts :

1. Object
2. Classes
3. Data Abstract and Encapsulations
4. Inheritance
5. Polymorphism
6. Dynamic Binding

Object : Objects are the basic run-time entities in an object-oriented system. Programming problem is analyzed in terms of object and nature of communication between them. When a program is executed. Object is an instance of a class. Note: In other words classes acts as data types for objects.

Classes: A class is a collection of objects of similar type. Once a class is defined any number of objects can be created which belong the class.

Data Abstract and Encapsulations: Abstraction means displaying only essential information and hiding the details. Data abstraction refers to providing only essential information about the data to the outside world, hiding the background details or implementation. Storing data and functions in a single class is Encapsulations. Data cannot be accessible to the outside worlds and only those functions which are stored in the class can access it.

Inheritance: The capability of a class to derive properties and characteristics from another class is called Inheritance. Inheritance one of the most important features of Object-Oriented Programming. Inheritance supports the concept of “reusability”, i.e when we want to create a new class and there is already a class that includes some of the code that we want. We can derive our new class from the existing class. By doing this, we are refusing the fields and methods of existing class.

Polymorphism: The word polymorphism means having many forms. In simple words, we can define polymorphism as the ability of a message to be displayed in more than one form. C++ supports operator overloading and function overloading.

Dynamic Binding: Specify that the compiler match a function call with the correct function definition at runtime.

Q.3 What is the difference between OOP and POP?

Ans :

OOP	POP
1. Object-Oriented Programming	1. Procedural Oriented Programming
2. In OOP program is divided into parts called objects.	2. In POP program is divided into small parts called functions.
3. OOP follows Bottom Up approach.	3. POP follows Top Down approach.
4. OOP has access specifiers named Public, Private, Protected etc..	4. POP does not have any access specifiers.
5. In OOP object can move and communicate with each other though member functions.	5. In POP data can move freely from function to function in the system.
6. OOP provides an easy way to add new data and function.	6. To add new data and function in POP is not to easy.
7. OOP provides data hiding so provides more security.	7. POP does not have any proper way for hiding data it is less secure.
8. In OOP overloading is possible in the form of function overloading and operator overloading.	8. In POP overloading is not possible.
9. Example of OPP are: C++, JAVA, VB.NET, C#.NET.	9. Example of POP are: C, VB.FORTAN, Pascal.