**OOP Concept**

**MODULE: 1 (SDLC)**

**Q.1 WAP to print “Hello World” using C++.**

#include<iostream>

using namespace std;

int main() {

cout << "Hello World";

}

**Q.2 What is OOP? List OOP concepts.**

Object Oriented Programming (OOP) is based on the concepts of objects and classes.

A class basically defines a structure of many instances, and these instances are objects.

There is a specific reason to introduce the OOPs is because of ‘data’. All the applications in the world are data driven. So, an object is used to describe data such as its properties and behavior. Object keeps the data/information in an organized manner.

Structs and Classes are identical to each other, where struct is a small collection of information and classes are larger group of information.

OOP concepts are as below:

1. Constructors
2. Encapsulation
3. Abstraction
4. Inheritance
5. Polymorphism

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

* In OOP, the program is divided into objects. And in POP (Procedure Oriented Programming), the program is divided into functions.
* OOP follows the bottom-up approach, whereas the POP follows top-down approach.
* In OOP, Inheritance of classes is allowed and in POP, there is no concept of Inheritance.
* OOP provides more data security by having the access specifiers. But, POP is less secure as it does not have access specifiers to limit the access of data.
* OOP also has Encapsulation concept to hide the data and POP does not have data hiding features.
* In OOP, object functions are linked through message passing. Whereas in POP, parts of the program are linked through parameter passing.
* In OOP, scalability of program is possible and in POP, restricted to scale to program for larger and complex applications.
* In OOP, we can reuse the code and the same thing is not possible in POP.
* C++ and Java are OOP languages, where C, Pascal are POP languages.