**MODULE-1**

**Q1 What is SDLC?**

**Ans.** SDLC stands for software development lifecycle.

* It is a structured process that is used to design, develop, and test good-quality software.

**Q2.** **What is Software Testing?**

**Ans.** It is process to check whether the software is matching the requirements of the client.

* It is a process to check that the software is bug and error free.

**Q3. What is OOPS?**

**Ans.** Oops stands for object-oriented programming language

* Oops helps to deal with real time entity using programming language.

**Q4. Write Basic Concepts of OOPS?**

**Ans.** Basic concepts of oops are as follows: -

1. Class

2.Object

3. Encapsulation

4. Inheritance

5. Polymorphism

6. Abstraction

* Class- It is a collection of object, variable and methods.

Syntax: - Access Modifier, Class keyword, class name.

Public Class login {

}

* Object- One type of container which stores non primitive datatype.
* Encapsulation- It is used to wrap data.
* Inheritance- child class can use functionality of parent class using extends keyword.
* Polymorphism- One interface multiple implementations.
* Abstraction- It is collection of abstract class and abstract method.

**Q5. What is Object?**

**Ans.** It is an instance of class which execute the class.

* It is a kind of container which stores non primitive datatype like class, array, interface.

Syntax- class\_name object\_name=newkeyword class\_name()

**Q6. What is Class?**

**Ans.** It is a collection of object, variable and methods.

* There are two types of class: -1. pre-defined

2. user defined

Syntax: - Access Modifier, Class keyword, class name.

Public Class login {

} // Scope of class

**Q7. What is Encapsulation?**

**Ans.** It is a mechanism through which we can wrap the data and method of the class in a single unit is called encapsulation.

* Flow of Encapsulation: -

Class 🡪 Method 🡪Data

**Q8. What is Inheritance?**

**Ans. child class can use the functionality of the parent class.**

* Advantages- code reusability, code optimization

Types of Inheritance-

* **Single inheritance**- single child and single parent.
* **Multiple inheritance**- single child and multiple parent. (Not supported in java.)
* **Multilevel inheritance**- If we want to give first class data to fourth class then we can’t give direct to fourth class.

We must give it to second class to third class and then to fourth class.

* **Hybrid inheritance**- Combination of two inheritances.
* **Hierarchical inheritance**- one parent and multiple child.

**Q9. What is Polymorphism?**

**Ans.** Poly means many and morphism means forms which means same object but different behavior.

* It has single interface multiple implementations.

There are two types of polymorphism: -

1. **Method Overriding**- same method and same argument.
2. **Method Overloading**- same method but different argument.

**Q10. Write SDLC phases with basic introduction.**

**Ans**. It is a process that is used to design, develop, and test good-quality software.

* + 1. **Requirement Analysis: -**  Gathering initial requirement, determining resources, budget, and time line.
    2. **Design: -** Create and architecture and design the software system. Converting the requirement into detailed design. This involves designing the system architecture and the detailed internal components including databases, user interface and modules.
    3. **Development: -** Developer builds the software based on the design specification.
    4. **Testing: -** Ensure the software works as expected and is free of bugs. Conduct various test to identify and fix defect or errors. This phase ensure that software meet with client requirement.
    5. **Deployment: -** Release software to the user. The software is deployed to the production so the end user can access it.