



SNS COLLEGE OF TECHNOLOGY



Coimbatore-35.

An Autonomous Institution

**Accredited by NBA – AICTE and Accredited by NAAC – UGC with ‘A++’ Grade (Cycle III)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai**

**DEPARTMENT OF COMPUTER SCIENCE ENGINEERING
COURSE CODE & NAME : 23CST205 - Object Oriented Programming Using Java**

II YEAR/ III SEMESTER

UNIT – I INTRODUCTION TO OOP

Topic: Object Oriented Programming concepts–Objects



Object-Oriented Programming

- The word object-oriented is the combination of two words i.e. object and oriented.
- The dictionary meaning of the object is an article or entity that exists in the real world.
- The meaning of oriented is interested in a particular kind of thing or entity.
- In programming pattern that rounds around an object or entity are called object-oriented programming.
- An object is referred to as a data field that has unique attributes and behavior. Everything in OOP is grouped as self-sustainable objects.
- The object-oriented programming is basically a computer programming design philosophy or methodology that organizes/ models software design around data, or objects rather than functions and logic.



Object-Oriented Programming

- It is the most popular programming model among developers. It is well suited for programs that are large, complex, and actively updated or maintained.
- procedural programming is about writing procedures or methods that perform operations on the data, while object-oriented programming is about creating objects that contain both data and methods.
- **Object-oriented programming advantages**
- OOP is faster and easier to execute
- OOP provides a clear structure for the programs
- OOP helps to keep the Java code DRY "Don't Repeat Yourself", and makes the code easier to maintain, modify and debug
- OOP makes it possible to create full reusable applications with less code and shorter development time



What is OOPS

- Strategy (or) methodology
- Real world concepts
-objects



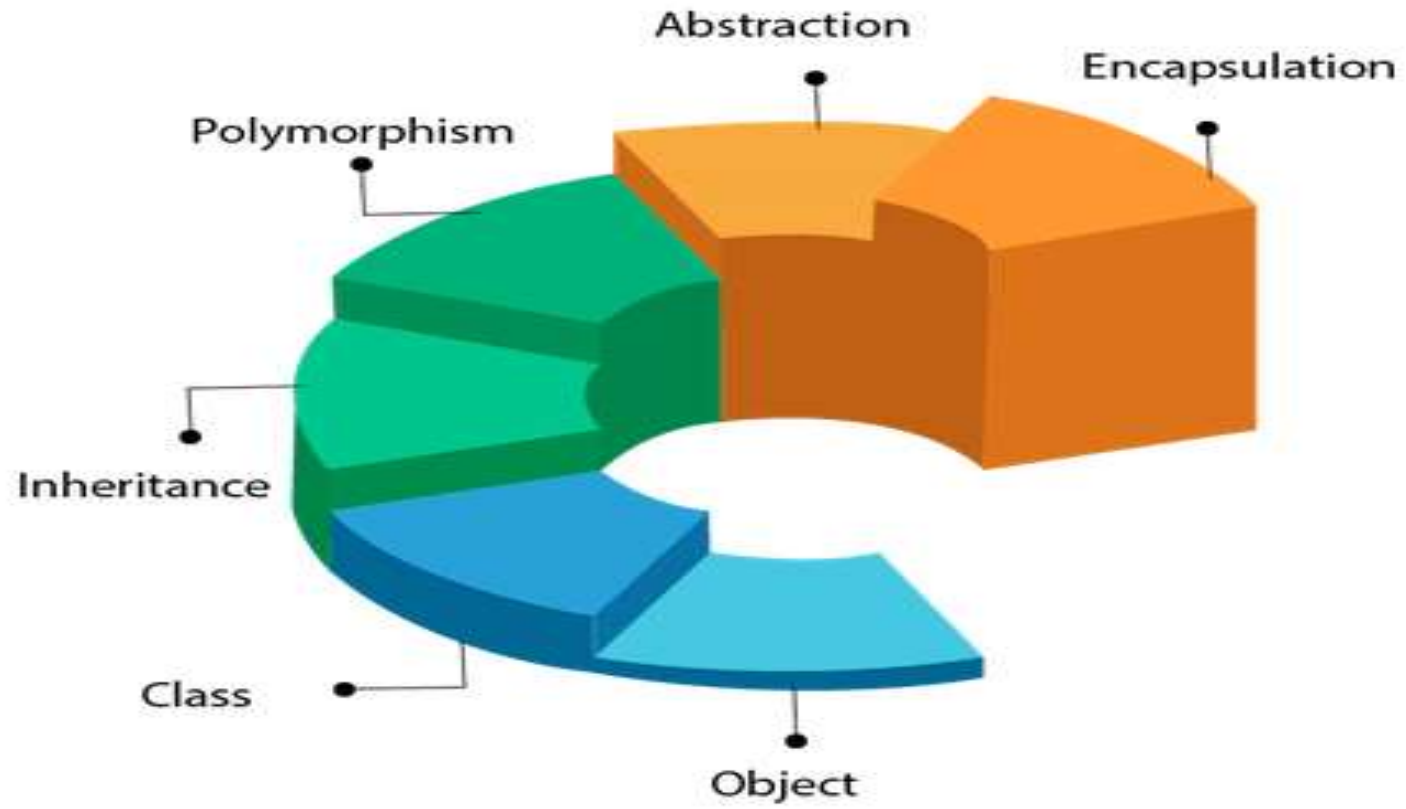
- Programming examples

Banking applications – Customer, Employee
Aircraft control system - Engine



Concepts of OOPS

- Object
- Class
- Inheritance
- Polymorphism
- Abstraction
- Encapsulation





Object

Any entity that has state and behavior is known as an object. For example, a chair, pen, table, keyboard, bike, etc. It can be physical or logical.

- An Object can be defined as an instance of a class. An object contains an address and takes up some space in memory. Objects can communicate without knowing the details of each other's data or code. The only necessary thing is the type of message accepted and the type of response returned by the objects.
- Example: A dog is an object because it has states like color, name, breed, etc. as well as behaviors like wagging the tail, barking, eating, etc.



