# **1.Introduction to Java**

• **Theory:**

**1 . History of Java : -**

* Java is a class based high level object oriented programming language developed by “James Gosling” and his friends in the year 1991.
* The first version of java (jdk 1.0) eses releted in the year 23rd January 1996 by sum microsystem.

**2. Features of Java (Platform Independent Object-Oriented, etc.) : -**

* + Platform Independence:
  + Object-Oriented:
  + Robustness:
  + Security:
  + Rich Standard Library:
  + Multithreading:
  + Automatic Memory Management:
  + Dynamic and Extensible:
  + Strong Community Support:

**3.** **Understanding JVM, JRE, and JDK :-**

1. JVM (Java Virtual Machine) : The JVM is an abstract machine that enables Java bytecode to be executed on any platform.

* The JVM handles memory management, garbage collection, and security features.
* It provides the runtime environment for Java applications.

**4. Setting up the Java environment and IDE (e.g., Eclipse, IntelliJ)**

**5. Java Program Structure (Packages, Classes, Methods):-**

* 1. Packages : A package is a namespace that groups related classes and interfaces. It helps organize files and avoid naming conflicts.

**Eg :** package Mypackage;

import java.util.Scanner;

* 2. Classes : A class is a blueprint for creating objects. It defines attributes (fields) and behaviors (methods).

**Eg :** public class MyClass {

// Fields and methods go here

}

* 3. Methods :A method is a block of code that performs a specific task. It can take parameters and return a value.

**Eg :** public returnType methodName(parameters) {

// Method body }