

B.C.A. Final Semester VI
Paper II
PROGRAMMING IN JAVA

UNIT - I :

Introduction to Java: -History of Java, features of Java, getting started with Java.
Java programs:-Introduction of Application & Applets. **Variables:** -Variable naming, variable initialization, assign values, Rules of variables, Scope of variable. **Operators:** - Arithmetic, Assignment, Unary, Comparison, Shift, Bit- Wise, Logical, Conditional, New, Special, Relational. Data types:-Integers, Char, String, Float etc. Typecasting:
Tokens: -Java tokens Order of precedence of operators Streams: - Input and output.

UNIT - II :

Creating a class & subclass: -Declaring a class, Naming class, Rules to assign Class & Subclass, Creating a new object, Class of an object. **Data members:** -Declaring data member, Naming variables, using class members. **Methods:** -Using data members, Invoke a method, passing arguments to a method, calling method. **Access Specifier & Modifiers:** -Public, Private, Protected, Static & Final. **Overloading:** -Method overloading, Constructor overloading. **Java class library:** - Different types of classes.
Decision making & loops:-If-then-else, Switch,? : operator, While-loop, do-while loop, for. **Array:** -Creating an array, one-dimensional array, two-dimensional array. **String:** - String array, string methods. **Inheritance:** -Single & multiple inheritances **Interfaces:** - Defining interfaces, extending interfaces, implementing interfaces.

UNIT - III :

Packages: -Java API packages, creating packages, accessing packages, adding a class to packages. **Import statement:** - Introduction & implementation of import statement.
Applets:-Introduction to Applets & Application, how applets application are different creating An applet. Applets life cycle, designing a web page, creating an executable applet, running the applet, applet tags, passing a parameter to applet, HTML tag, Converting applet to application. **Threads:**-Overview of threads, single & multiple threads, lift cycle of threads, stopping & blocking threads, working with threads, priority to thread, synchronization. **Exceptions & Errors:**-Introduction, types of error, exception, syntax of exception, handling techniques, exception for Debugging.

UNIT - IV :

Event: -Event driven programming, handling an (AWT) events. **Graphic class:-** Introduction, the graphic classes, drawing & filling of lines, rectangle, circle & ellipse, arcs, polygons, text & fonts, creating a font class, font objects, text, coloring object.
Streams:-Introduction, Abstract stream classes, file input & output.
AWI Applications: -Creating a GUI using AWT toolkit, using component class, frames.
Components & Control: -Textfield, textarea class, label, button, choice, list, checkbox, class, and combo. **Menus:** -Creating a popup menus. **Image:** - Type of image, Properties of an image, Displaying an image. **Layouts:** -Using Window Listener interface, Different types of Layout, Layout manager, Flow manager, Grid manager. **Container:** -Different types of container (Frame, Dialog, Panel)

Reference Books:

1. Programming with Java a primer II edition:-E Balaguruswamy(Tata McGraw-Hill)
2. Java Programming (For absolute beginners) Russell PHI
3. Black Book on Java
4. Java-Complete References