Programming in JAVA

BCA(N)-EE

Block 1: Object Oriented Methodology and Java

Unit 1: Object Oriented Programming

Paradigms of Programming languages, Evolution of Object Oriented Methodology, Basic Concepts of OOApproach, Comparison of object oriented and procedure - oriented Approaches, Benefits of OOPS,Applications of OOPS. Classes and objects, Abstraction and Encapsulation, Inheritance, Method overriding and Polymorphism.

Unit 2: Java Language Basics

Introduction to Java, Primitive Data Type and Variables, Java Operators.

Unit 3: Expressions Statements and Arrays

Expressions, Statements, Control Statements, Selection Statements, Iterative Statements, Jump statements, Arrays.

Block 2: Object oriented concepts and Exceptions Handling

Unit 4: Class and objects

Class Fundamentals, Introducing Methods, this Keyword, Using objects as Parameters, Method overloading, Garbage collection, the ffinalize () Method.

Unit 5: Inheritance and Polymorphism

Inheritance Basics, Access, Multilevel, inheritance, Method overriding Abstract classes, Polymorphism, Final Keyword.

Unit 6: Packages and interfaces

Package, Accessibility of Packages, using Package members, Interfaces, Implementing interfaces, interface and Abstract classes, Extends and Implements together.

Unit 7: Exceptions Handling

Exception, Handling of Exception, Types of Exceptions, Throwing, Exceptions, writing Exception subclasses.

Block 3: Multithreading, I/O, and Strings Handling

Unit 8: Multithreaded Programming

Multithreading, The Main thread, JAVA Thread Model, Thread Priorities, Synchronization inJAVA, Inter thread Communication.

Unit : I/O In Java

I/O Basics, Streams and stream, Classes, the predefined streams, Reading from and writing to console, reading and writing files, the transient and volatile Modifiers, using instance of Native

Methods.

Unit 10: Strings and Characters

Fundamental of Characters and Strings, the String class, String operations, Data Conversion using value of () Methods, Strings Buffer and Methods.

Unit 11: Exploring Java I/O

Java I/O classes and interfaces, Stream classes, Text streams, Stream Tokenizer, Serialization,Buffered stream, print stream, Random Access file.
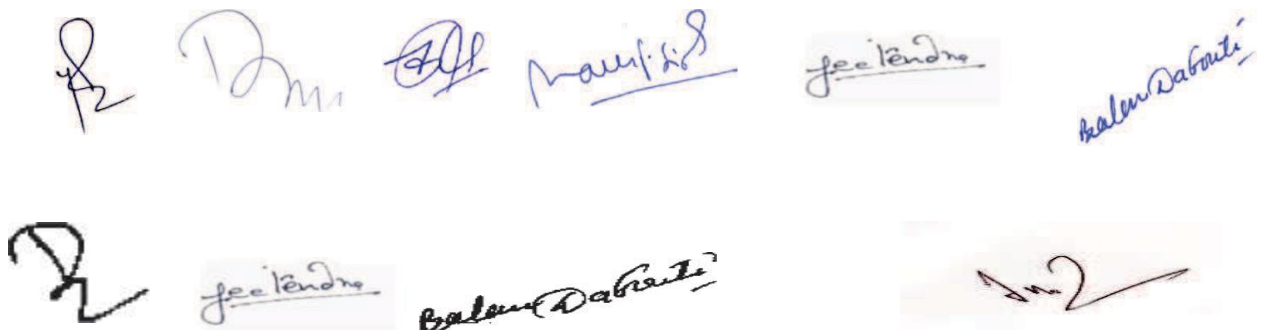
Block 4: Graphics and user interfaces

Unit 12: Applets

The applet class, Applet architecture, An applet Skeleton: Initialization and Termination, Handling events, HTML Applet TAG.

Unit 13: Graphics and user interfaces

Graphics contests and Graphics objects, user interface components, Building user interface withAWT, Swing - Based GUI, Layouts and layouts and layout Manager, Container.

Unit 4: Networking Features

Socket overview, reserved parts and proxy servers, Internet Addressing: Domain Naming Services (DNS),

Java andThe Net: URL, TCP/IP Sockets, Datagrams.