

MCA 401 Programming with Java

Module 1 (10 Hours)

Features of Java, Data types, operators & expressions, control structures, arrays, Classes, objects & methods, constructors, garbage collection, access qualifiers, string handling – string operations, character extraction, string comparison, searching and modifying strings, String Buffer, packages and interfaces, Wrapper classes.

Module 2 (10 Hours)

Inheritance: single and multilevel inheritance, method overriding, abstract class, use of super and final keywords. Exception Handling: Exception types, uncaught exceptions, multiple catch clauses, nested try statements, built-in exceptions, creating your own exceptions. Multithreading: Java thread model, creating multiple threads, thread priorities, synchronization, interthread communication, suspending, resuming and stopping threads.

Module 3 (10 Hours)

Applets: Local & Remote Applets, Applet Architecture, Passing Parameters to Applets, Applet Graphics, Adapter Class. I/O Streams: Console I/O – reading console input, writing console output, Files I/O – Byte Streams, Character Streams, Collection Interfaces & Classes, Delegation Event Model

Module 4 (10 Hours)

AWT Classes: Window fundamentals, working with graphics, working with color & fonts. AWT controls, layout managers & working with menus, JFrames. Swing Classes, Java Beans, Servlet classes & Life Cycle.

Module 5 (6 Hours) (as per choice of faculty)

Portion covered can be tested through Internal evaluation only not to be included in University examination)

Text Books:

1. Herbert Schildt, The Complete Reference Java 2, Fourth Edition, Tata McGraw Hill-2001
2. Liang Y.Daniel, Introduction to Java Programming (7th Edition), 2009, Pearson Education.

Reference Books:

1. Steven Holzner, Java 1.2, BPB-1998
2. E. Balaguruswami, Programming with Java - Second Edition, Tata McGraw Hill-1998.
3. Mughal K.A., Rasmussen R.W., A Programmer's Guide to Java Certification, Addison-Wesley, 2000