

### Java Programming

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| Semester V | Subject Code: BC51701 | Lectures: 60 |
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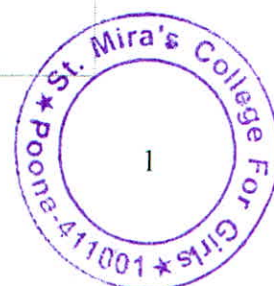
#### Objectives:

The syllabus aims in equipping students with,

- Basic concept of Java Programming
- To understand how to use programming in day to day applications
- Knowledge of data base Programming in Java

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| <b>Unit 1: Introduction to Java</b>   | <b>10</b> |
| <ul style="list-style-type: none"> <li>• Features of java</li> <li>• JDK Environment &amp; tools like(java, javac, appletviewer, javadoc, jdb) 1.3</li> <li>• OOPs Concepts Class, Abstraction , Encapsulation, Inheritance, Polymorphism</li> <li>• Difference between C++ and JAVA</li> <li>• Structure of java program</li> <li>• Data types ,Variables ,Operators , Keywords ,Naming Convention</li> <li>• Decision Making (if, switch), Looping(for, while)</li> <li>• Type Casting</li> <li>• Array Creating an array Types of Array - One Dimensional arrays - Two Dimensional array</li> <li>• String - Arrays , Methods. - StringBuffer class</li> </ul> |           |

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| <b>Unit 2: Classes and Objects</b>  | <b>12</b> |
| <ul style="list-style-type: none"> <li>• Creating Classes and objects</li> <li>• Memory allocation for objects</li> <li>• Constructor</li> <li>• Implementation of Inheritance Simple, Multilevel, Interfaces , user defined interfaces and system interfaces(Collection, List, Iterator, listiterator and ArrayListLinkedList classes)</li> <li>• Abstract classes and methods</li> <li>• Implementation of Polymorphism</li> <li>• Method Overloading, Method Overriding</li> <li>• Nested and Inner classes.</li> <li>• Modifiers and Access Control</li> <li>• Packages Packages Concept Creating user defined packages</li> <li>• Java Built in packages java.lang-&gt;math java.util-&gt;Random, Date, Hashtable Wrapper classes</li> </ul> |           |



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| <b>Unit 3: JDBC</b>  | <b>8</b>  |
| <ul style="list-style-type: none"> <li>• The design of JDBC</li> <li>• Basic JDBC program Concept</li> <li>• Drivers</li> <li>• Architecture of JDBC</li> <li>• Making the Connection, Statement , ResultSet , PreparedStatement, CollableStatement</li> <li>• Executing SQL commands</li> <li>• Executing queries</li> </ul>  |           |
| <b>Unit 4: File and Exception Handling</b>   | <b>06</b> |
| <p><b>Exception</b></p> <ul style="list-style-type: none"> <li>• Exception types</li> <li>• Using try catch and multiple catch Nested try, throw , throws and finally</li> <li>• Creating user defined Exceptions</li> </ul> <p><b>File Handling</b></p> <ul style="list-style-type: none"> <li>• Stream ByteStream Classes CharacterStream Classes</li> <li>• File IO basics</li> <li>• File operations Creating file Reading file(character, byte) Writing file (character, byte)</li> </ul>               |           |
| <b>Unit 5: Applet, AWT and Swing Programming</b>   | <b>12</b> |
| <ul style="list-style-type: none"> <li>• <b>Applet</b> <ul style="list-style-type: none"> <li>➤ Introduction</li> <li>➤ Types applet</li> <li>➤ Applet Life cycle - Creating applet - Applet tag</li> <li>➤ Applet Classes - Color - Graphics - Font AWT</li> </ul> </li> <li>• Components and container used in AWT</li> <li>• Layout managers</li> <li>• Listeners and Adapter classes</li> <li>• Event Delegation model Swing</li> <li>• Introduction to Swing Component and Container Classes</li> </ul> |           |

\*Contact hours – 12 hours



**Recommended Text Book:**

- ✓ 1. *Java Programming*, Success Publication
- ✓ 2. *Java Programming*, Vision Publication 2014

**Reference Books:**

1. E Balgurusamy, *Programming with JAVA*
2. Herbert Schildt, *The Complete Reference – JAVA*

