

JAVA AND J2EE

Course Code 12IS5B5
L:T:P:S 3:0:0:0
Credits 3

CIE Marks 100
SEE Marks 100
SEE Duration 3 Hrs

Unit-I

Introduction: Java Buzzwords, Java programming structure, Type Conversion, Object Oriented Terminologies Constructors, Using objects as Parameters, Argument passing and returning objects, Understanding Static, Command Line arguments, Packages and Interfaces, Enumerations, Autoboxing, Annotations, Exception Handling. **7 Hrs**

Unit-II

Multithreaded Programming. Input/Output: Exploring Java.io: Java Input/Output Classes and Interfaces, File, Stream Classes, the Byte Streams, the Character Streams. Introducing Swing, Exploring Swing. **7 Hrs**

Unit-III

Overview: J2EE and J2SE, Tomcat.

Java Database Connectivity: JDBC Introduction, Types of drivers, Basic Steps of JDBC, Creating and Executing SQL statement, The Result Set Object, Working with Databases. **7 Hrs**

Unit-IV

Servlets:

Introduction, Life cycle of Servlet, Handling GET and POST requests, Servlet Handling from data, Cookies and Session Tracking.

Java Server Pages:

Basics and Overview, JSP architecture, JSP tags and JSP expressions, Lifecycle of a JSP Model View Controller (MVC), JSP Objects, JSP Beans Tags, Working with Databases. **7 Hrs**

Unit-V

Struts:

Introduction to the Apache Struts, MVC Architecture, Struts Architecture, How Struts works? Introduction to the Struts Controller, Introduction to the Struts Action Class, Using Struts ActionForm Class, Using Struts HTML Tags, Introduction to Struts Validator Framework Client Side Address Validation in Struts, Developing Application with Struts. **7 Hrs**

Course Outcome

- 1 Comprehend the basic concepts of Java Standard Edition and the Enterprise Edition.
- 2 Use the Java SDK environment to create, debug and run Java standalone and applet programs.
- 3 Design and build robust and maintainable web applications by creating dynamic HTML content with Servlets and JavaServer Pages.
- 4 Create Rapid Applications using Struts.

References

- 1 Herbert Schildt, Java 7 The Complete Reference, McGraw-Hill Osborne Media, 8th Edition, 2011, ISBN : 9780071606301.

- 2 Herbert Schildt, James Holmes, Complete Reference Struts, Tata Mcgraw Hill Publishing Co Ltd, 2nd Edition, 2012, ISBN: 9780070658455.
- 3 Jim Keogh, J2EE - The Complete Reference, Tata McGraw Hill, 1st Edition, 2002, ISBN: 9780070529120.
- 4 Bruce Eckel, Thinking in Java, Pearson Education, 4th Edition, 2006, ISBN: 0131872486.

Scheme of Continuous Internal Evaluation for Theory

CIE consists of Three Tests each for 45 marks (15 marks for Quiz + 30 marks for descriptive) out of which best of two will be considered. In addition there will be one seminar on new topics / model presentation etc. for 10 marks.

Scheme of Semester End Evaluation—Theory

The question paper consists of Part A and Part B. Part A will be for 20 marks covering the complete syllabus and is compulsory. Part B will be for 80 marks and shall consist of five questions carrying 16 marks each. All five questions from Part B will have internal choice and one of the two have to be answered compulsorily.