**Lecture Schedule**

**Department of Computer Science Engineering & Information Technology**

# Branch & Section : IV.B.Tech - II Sem – EEE Regulation : R13

**Subject : JAVA PROGRAMMING Academic Year : 2017 -2018**

**Name of the Faculty : G.sankara rao**

**Course Objectives**

At the end of the course, the students will be able to:

1.Focus on object oriented concepts and java program structure and its installationIntroduction to OOP

2. Comprehension of java programming constructs, control structures in Java

Programming Constructs

3. Implementing Object oriented constructs such as various class hierarchies, interfaces and exception handling

4. Understanding of Thread concepts and I/O in Java

5. Being able to build dynamic user interfaces using applets and Event handling in java

6.Understanding of various components of Java AWT and Swing and writing code snippetsusing them

**Course Outcomes:**

After completing this course the student must demonstrate the knowledge and ability to:

1. Designs will demonstrate the use of good object-oriented design principles including encapsulation and information hiding
2. The implementation will demonstrate the use of a variety of basic control structures including selection and repetition; classes and objects in a tiered architecture (user interface, controller, and application logic layers); primitive and reference data types including composition; basic AWT components; file-based I/O; and one-dimensional arrays
3. Implementing programs for user interface and application development using core java principles
4. Write, compile and execute Java programs using object oriented class structures withparameters, constructors, and utility and calculations methods, including inheritance, testclasses and exception handling. ()
5. Write, compile, execute Java programs that include GUIs and event driven programming. ()

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| Unit No | Topic No | Name of the Concept | No. of Classes Required |
| Unit – 1 :  **Introduction to OOP** | | | |
| Unit - 1 | 1 | Introduction, Need of Object Oriented Programming | 2 |
| 2 | Principles of Object Oriented Languages | 2 |
| 3 | Procedural languages Vs OOP | 1 |
| 4 | Applications of OOP, History of JAVA | 1 |
| 5 | Java Virtual Machine, Java Features | 2 |
| 6 | Program structures, Installation of JDK1.6 | 1 |
| Total number of hours | | | 9 |
| Unit – 2 : **Programming Constructs** | | | |
| Unit – 2 | 1 | Variables , Primitive Datatypes | 1 |
| 2 | Identifiers- Naming Coventions | 1 |
| 3 | Keywords, Literals, | 1 |
| 4 | Operators-  Binary,Unary and ternary, Expressions, Precedence rules and Associativity, | 1 |
| 5 | Primitive TypeConversion and  Casting, Flow of control-Branching,Conditional, loops | 1 |
| 6 | classes, Objects, Creating Objects, Methods | 1 |
| 7 | constructors-Constructor overloading,  cleaning up unused objects-Garbage collector | 2 |
| 8 | Class variable and Methods-Static keyword | 2 |
| 9 | this keyword, | 1 |
| 10 | Arrays, Command line arguments | 1 |
| Total number of hours | | | 12 |
| Unit – 3 :  **Inheritance, Interfaces, Packages and Enumeration, Exceptions & Assertions** | | | |
| Unit – 3 | 1 | Types of Inheritance, Deriving classes using extends keyword | 2 |
| 2 | Method overloading, super keyword, | 1 |
| 3 | final keyword, Abstract class | 1 |
| 4 | Interface-Extending interface, Interface Vs Abstract classes | 2 |
| 5 | Packages-Creating packages , using Packages | 2 |
| 6 | Access protection, java.lang package | 1 |
| 7 | Introduction, Exception handling techniques-try...catch, throw, throws | 1 |
| 8 | finally  block, user defined exception | 1 |
| 9 | Exception Encapsulation and Enrichment, | 1 |
| 10 | Assertions | 1 |
| Total number of hours | | | 13 |

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| Unit – 4: **MultiThreading, Input/Output** | | | |
| Unit – 4 | 1 | java.lang.Thread, The main Thread | 1 |
| 2 | Creation of new threads, Thread priority | 1 |
| 3 | Multithreading- Using isAlive() and join(), Syncronization | 1 |
| 4 | suspending and Resuming threads,  Communication between Threads | 1 |
| 5 | reading and writing data, | 2 |
| 6 | java.io package | 1 |
| Total number of hours | | | 7 |

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| Unit – 5:  **Applets, Event Handling** | | | |
| Unit – 5 | 1 | Applet class, Applet structure | 1 |
| 2 | An Example Applet Program, Applet Life Cycle | 1 |
| 3 | paint(),update()and repaint() | 1 |
| 4 | Introduction, Event Delegation Model | 1 |
| 5 | java.awt.eventDescription,Sources of Events | 1 |
| 6 | Event Listeners | 1 |
| 7 | Adapter classes, Inner classes | 2 |
| Total number of hours | | | 8 |

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| Unit – 6 :  **Abstract Window Toolkit, Swing:** | | | |
| Unit – 6 | 1 | Why AWT?, java.awt package | 1 |
| 2 | Components and Containers, Button, Label | 2 |
| 3 | Checkbox, Radio buttons, List  boxes, | 2 |
| 4 | Choice boxes, Text field and Text area | 2 |
| 5 | container classes, Layouts, Menu, Scroll bar | 1 |
| 6 | Introduction , JFrame, JApplet | 1 |
| 7 | JPanel, Components in swings, Layout Managers | 2 |
| 8 | JList and JScroll Pane,  Split Pane | 1 |
| 9 | JTabbedPane, Dialog Box | 1 |
| 10 | Pluggable Look and Feel | 1 |
| Total number of hours | | | 14 |

**Overall Number of classes required:63**

**Text Books:**

1. The Complete Refernce Java, 8ed, Herbert Schildt, TMH

2. Programming in JAVA, SachinMalhotra, Saurabhchoudhary, Oxford.

3. JAVA for Beginners, 4e, Joyce Farrell, Ankit R. Bhavsar, Cengage Learning.

4. Object oriented programming with JAVA, Essentials and Applications, Raj Kumar Bhuyya, Selvi, Chu

TMH

5. Introduction to Java rogramming, 7th ed, Y Daniel Liang, Pearson

**References:**

1. JAVA Programming, K.Rajkumar.Pearson

2. Core JAVA, Black Book, NageswaraRao, Wiley, Dream Tech

3. Core JAVA for Beginners, RashmiKanta Das, Vikas.

4. Object Oriented Programming Through Java, P. Radha Krishna, Universities Press.

Signature of Faculty