

**P R GOVT COLLEGE(A), KAKINADA**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**III B.Com (CA) - Semester- VI (W.E.F. 2016-2017)**

**Course: Programming in Java –Paper-IV - code: CP6313B-Elective-II**

**Total Hrs. of Teaching-Learning: 52 @ 4 h / Week**

**Total Credits: 03**

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**Objective:** To develop proficiency in the specification, representation, and implementation of OOPS Concepts.

**Outcomes:** After completion of this course, student can able to understand:

1. The basic structure of Java Programming.
2. Object Oriented Programming features.

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**Module-1: Java Fundamentals**

HRS: 12

Java Fundamentals: Object oriented paradigm – Basic concepts of Object Oriented Programming – Benefits of OOP – Applications of OOP. Java Evolution: Java Features – How Java differs from C and C++ - Java and Internet – Java and World Wide Web – Web Browsers – Hardware and Software Requirements – Java Environment. Overview of Java Language: Simple Java Program – Java Program Structure – Java Tokens- Java Statements – Implementing a Java Program – Java Virtual Machine – Command Line Arguments.

**Module-2 Basics of Java Programming**

HRS: 12

**Basics:** History of Java, comments, data types, variables, constants, scope and life time of variables, operators, operator hierarchy, expressions, type conversion and casting, enumerated types, control flow block scope, simple java stand alone programs, arrays.

**Operators and Expressions:** Arithmetic Operators – Relational Operators- Logical Operators – Assignment Operators – Increment and Decrement Operators – Conditional Operators – Bitwise Operators – Special Operators – Arithmetic Expressions – Evaluation of Expressions – Precedence of Arithmetic Operators – Operator Precedence and Associativity.

**Decision Making and Branching:** Decision Making with If statement – Simple If Statement-If else Statement-Nesting If Else Statement- the ElseIf Ladder-The switch Statement – The ?: operator.

**Decision Making and Looping:** The while statement – The do statement – The for statement – Jumps in Loops.

**Module-3: OOPS Concepts in Java**

HRS: 12

**Class, Objects and Methods:** Defining a Class – Fields Declaration – Methods Declaration – Creating Objects – Accessing class members – Constructors – Methods Overloading – Static Members – Nesting of Methods – Inheritance – Overriding Methods – Final Variables and Methods – Final Classes – Abstract Methods and Classes – Visibility Control-garbage Collection.

**Module-4: Inheritance, Polymorphism & Interfaces**

HRS: 12

**Inheritance** - Inheritance hierarchies super and sub classes, Member access rules, super keyword, preventing inheritance: final classes and methods, the Object class and its methods.

**Polymorphism** - Dynamic binding, Method overriding, abstract classes and Methods.

**Interfaces** - Interfaces vs. Abstract classes, defining an interface, implementing interfaces, accessing implementations through interface references, extending interfaces, Multiple Inheritance.

**Prescribed Text Books:**

1. E. Balaguruswamy, Programming with Java, A primer, 3e, TATA McGraw-Hill company (2008)
2. Java Fundamentals-A Comprehensive Introduction, Herbert Schimdt and Dale Srien, TMH.

**Reference Books:**

1. Java for Programmers, P.J.Deital and H.M.Deital, Pearson Education
2. Object Oriented Programming Through Java, P.Radha Krishna, Universities Press.

**P. R.GOVT. COLLEGE (AUTONOMOUS), KAKINADA**  
**MODEL BLUE PRINT (W.E.F. 2016-2017)**  
**III B.Com (CA) - Semester- VI (W.E.F. 2016-2017)**  
**Course code: CP6313B**

**SUBJECT: Programming in Java -Elective-II**  
**PAPER- IV**

**Time: 3 Hrs**  
**Marks: 70**

**Model blue print for the model paper and choice**

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A Very Short Questions	2	1	5	5	1	5
2	Section-B Short Questions	8	5	40	5	5	25
3	Section-C Essay Questions	8	10	80	4	10	40
<b>TOTAL MARKS</b>				<b>125</b>	<b>TOTAL MARKS</b>		<b>70</b>

**P.R.GOV.T.COLLEGE (AUTONOMOUS), KAKINADA**  
**MODEL PAPER (W.E.F. 2016-2017)**  
**III B.Com (CA) - Semester- VI (W.E.F. 2016-2017)**  
**Course code: CP6313B**

**SUBJECT: Programming in Java -Elective II**  
**PAPER-IV**

**Time: 3 Hrs**  
**Marks: 70**

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**Section – I**

**Answer any all questions**

**5 x 1 = 5M**

1. Define JVM.
2. Define Constant.
3. What is an Operator?
4. Define class and Object.
5. Define Interface.

**Section –II**

**Answer any 5 questions**

**5 x 5 =25M**

6. What are the data types supported by Java?
7. Explain the Evaluation of Expressions.
8. Explain the Conditional Statements in Java.
9. Discuss Abstract classes and Methods.
10. Discuss Constructor Overloading.
11. Discuss Constructor Overriding.
12. Explain about Final variables and Methods.
13. How can you implement Interfaces?

**Section –III**

**Answer all the questions**

**4 x 10 = 40M**

14. A. Explain the features of Object Oriented Programming.

**(OR)**

B. What is an Operator? Explain the Types of Operators in Java.

15. A. Explain the Decision Making and Looping Statements in Java.

**(OR)**

B. How is Multiple Inheritance handled in Java Programming?

16. A. What is a Package? Explain the creation of Package in Java.

**(OR)**

B. Explain about JVM in details.

17. A. What is the difference between overriding and overloading by using programming?

**(OR)**

B. Explain the difference between Interfaces and Abstract classes with an example Programs.