

DEPARTMENT OF INFORMATION TECHNOLOGY				CLASS: II B.Sc. Information Technology				
Sem	Course Type	Course Code	Course Title	Credits	Contact Hours/week	CIA	Ext	Total
IV	Major Core Practical-4	20U4FMP4	Java Programming Lab	2	3	40	60	100

Nature of Course				
Knowledge and skill			Employability oriented	✓
Skill oriented	✓		Entrepreneurship oriented	

Course Objectives

1. To acquire knowledge on the basics of Java programming.
2. To impart the knowledge of OOPs approach in computer programming.
3. To understand and apply the concepts of Array declaration and uses.
4. Be familiar with programming environment with File handling and Multithreading.
5. To learn the concept of Applet Programming.

UNIT	CONTENT	Hrs	K-Level	CLO
I	Introduction: 1. Write a Java program to generate the Fibonacci Series. 2. Write a Java program using Command Line Arguments. 3. Write a Java program to calculate Electricity bill.	9	Up to K2	1
II	Class & objects: 4. Write a Java program to generate student mark list using Classes and Object. 5. Write a Java program to find the Area of different shapes using Method Overloading. 6. Write a Java program for Employee pay bill calculation using Multilevel Inheritance	9	Up to K3	2
III	Arrays, Packages, Exceptions: 7. Write a Java program to perform Arithmetic Calculation using Package. 8. Write a Java program to perform String Manipulation. 9. Write a Java program for User Defined Exception and Built-In Exception	9	Up to K3	3
IV	Input / Output : 10. Write a Java program using Multithreading. 11. Write a Java program to counting vowels in given File	9	Up to K4	4
V	Applets & Graphics Programming: 12. Write a Java Applet program to draw a Smiley using Graphics Packages. 13. Write a Java program for getting input from the user using Applet. 14. Write a java program to create a database of student mark list using JDBC and My Sql. 15. Write a java program to update a student mark list database using JDBC and My Sql.	9	Up to K2	5

Book for Study

1. Programming with Java by E. Balagurusamy, V Edition., - MGH.
2. Jdbc 4.2, Servlet 3.1, AndJsp 2.3 Includes Jsf 2.2 And Design Patterns, Black Book, by Santosh Kumar K, 2nd Edition, Dream Tech Publications

Books for Reference

1. Java How to Program by Deital & Deital, Pearson education-2003.
2. Java A Beginner's Guide by Herbert Schildt, IV Ed., TMH.
3. Java Complete Reference 2 by Patrick Naughton, Herbert Schildt, V Ed., - TMH.

Web Resources

1. <https://www.w3schools.com/java/>
2. <https://www.programiz.com/java-programming/>
3. <https://www.tutorialpoint.com/java-language/>

Rationale for Nature of the course

- Helps to construct real time applications without necessarily knowing their inside implementation.

Activities on Skill Development

- Practice to implement program
- Bug Fixing

Pedagogy

Projector, Demonstration and Practical Session.

Course Designer(s) Name

1. Mrs. K. Imaya
2. Mrs. R. Lakshapriya

Lesson Plan

Unit	Topics	Hours	Mode
I	Write a Java program to generate the Fibonacci Series.	3	Demo & Practical sessions
	Write a Java program using Command Line Arguments.	3	
	Write a Java program to calculate Electricity bill.	3	
II	Write a Java program to generate student mark list using Classes and Object.	3	Demo & Practical sessions
	Write a Java program to find the Area of different shapes using Method Overloading.	3	
	Write a Java program for Employee pay bill calculation using Multilevel Inheritance.	3	
III	Write a Java program to perform Arithmetic Calculation using Package.	3	Demo & Practical sessions
	Write a Java program to perform String Manipulation.	2	
	Write a Java program for User Defined Exception and Built-In Exception	4	
IV	Write a Java program using Multithreading.	5	Demo & Practical sessions
	Write a Java program to counting vowels in given File.	4	
V	Write a Java Applet program to draw a Smiley using Graphics.	2	Demo & Practical sessions
	Write a Java program for getting input from the user using Applet.	2	
	Write a java program to create a database of student mark list using JDBC and My Sql.	3	
	Write a java program to update a student mark list database using JDBC and My Sql.	2	

Course Learning Outcomes

On the completion of the course the student will be able to

CLOs	Course Learning Outcomes	K - Levels
CLO 1	Outline the logic using flowchart for a given problem and develop programs using conditional and looping statements	Up to K2
CLO 2	Develop programs with implementation of classes & object, constructor, Inheritance and Interface	Up to K3
CLO 3	Develop programs with Arrays, String handling functions and Packages.	Up to K3
CLO 4	Construct programs with Managing I/O Files, File Handling, and Multithreaded Programming.	Up to K4
CLO 5	Gain skills to write Applet Programming and JDBC Connectivity with My SQL.	Up to K2

Mapping of CLOs with PSOs

CLOs / PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CLO 1	2	2	3	-	1	2
CLO 2	2	1	2	-	2	3
CLO 3	2	3	2	-	1	2
CLO 4	2	3	2	-	2	1
CLO 5	3	1	3	1	3	3

(3 – Advanced Application, 2 – Intermediate Level, 1- Basic Level)

Mapping of CLOs with POs

CLOs / POs	PO1	PO2	PO3	PO4	PO5
CLO 1	3	3	2	1	1
CLO 2	3	1	-	3	2
CLO 3	3	3	-	2	1
CLO 4	3	2	-	2	2
CLO 5	3	2	-	3	3

(3 – Advanced Application, 2 – Intermediate Level, 1- Basic Level)