SYLLABUS

CS3391   **OBJECT ORIENTED PROGRAMMING**   **L T P C 3 0 0 3**

UNIT I   **INTRODUCTION TO OOP AND JAVA**   **9**

Overview of OOP – Object oriented programming paradigms – Features of Object OrientedProgramming – Java Buzzwords – Overview of Java – Data Types, Variables and Arrays – Operators– Control Statements – Programming Structures in Java – Defining classes in Java – ConstructorsMethods -Access specifiers - Static members- Java Doc comments

UNIT II   **INHERITANCE, PACKAGES AND INTERFACES**   **9**

Overloading Methods – Objects as Parameters – Returning Objects –Static, Nested and Inner Classes.Inheritance: Basics– Types of Inheritance -Super keyword -Method Overriding – Dynamic MethodDispatch –Abstract Classes – final with Inheritance. Packages and Interfaces: Packages – Packagesand Member Access –Importing Packages – Interfaces.

UNIT III   **EXCEPTION HANDLING AND MULTITHREADING**   **9**

Exception handling basics – Multiple catch Clauses – Nested try Statements – Java's Built-inExceptions – User defined Exception. Multithreaded Programming: Java Thread Model–Creating aThread and Multiple Threads – Priorities – Synchronization – Inter Thread Communication- Suspending–Resuming, and Stopping Threads –Multithreading. Wrappers – Auto boxing.

UNIT IV   **I/O, GENERICS, STRING HANDLING**   **9**

I/O Basics – Reading and Writing Console I/O – Reading and Writing Files. Generics: GenericProgramming – Generic classes – Generic Methods – Bounded Types – Restrictions andLimitations. Strings: Basic String class, methods and String Buffer Class.

UNIT V   **JAVAFX EVENT HANDLING, CONTROLS AND COMPONENTS**   **9**

JAVAFX Events and Controls: Event Basics – Handling Key and Mouse Events. Controls: Checkbox,ToggleButton – RadioButtons – ListView – ComboBox – ChoiceBox – Text Controls – ScrollPane.Layouts – FlowPane – HBox and VBox – BorderPane – StackPane – GridPane. Menus – Basics – Menu– Menu bars – MenuItem.

TOTAL:45 PERIODS

TEXT BOOKS:

1. Herbert Schildt, "Java: The Complete Reference", 11 th Edition, McGraw Hill Education, New Delhi,

2019

2. Herbert Schildt, "Introducing JavaFX 8 Programming", 1 st Edition, McGraw Hill Education, New

Delhi, 2015

REFERENCE:

1. Cay S. Horstmann, "Core Java Fundamentals", Volume 1, 11 th Edition, Prentice Hall, 2018.

CS3391 OBJECT ORIENTED PROGRAMMING

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Course Objectives:

- To understand Object Oriented Programming concepts and basics of Java programming
- language
- To know the principles of packages, inheritance and interfaces
- To develop a java application with threads and generics classes
- To define exceptions and use I/O streams
- To design and build Graphical User Interface Application using JAVAFX

Pre-Requisites: Programming in C

CO-Requisites: Programming in C

Course Outcomes:

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

CO1	Apply the concepts of classes and objects to solve simple problems	Applying
CO2	Develop programs using inheritance, packages and interfaces	Applying
CO3	Make use of exception handling mechanisms and multithreaded model to solve real world problems	Applying
CO4	Build Java applications with I/O packages, string classes, Collections and generics concepts	Applying
CO5	Integrate the concepts of event handling and JavaFX components and controls for developing GUIbased applications	Applying

Correlation of Course Outcome (CO) with Program Outcomes (PO):

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	1	-	-	-	-	-	-	-	1	1	3
CO2	3	3	3	1	-	-	-	-	-	-	-	1	1	3
CO3	3	3	3	1	-	-	-	-	-	-	-	1	1	3
CO4	3	3	3	1	-	-	-	-	-	-	-	1	1	3
CO5	3	3	3	1	-	-	-	-	-	-	-	1	1	3

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Faculty-in-Charge   **HoD/CSE**