

Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Internal	Final Exam	Total
MCA-202	Object Oriented Programming in Java	PCC	4	4	0	0	40	60	100

Course Outcomes

At the end of the course the student will be able to	
CO1	Appreciate the foundational data structures in Java
CO2	Apply object-oriented decomposition to model real-world scenarios and applications through objects and Classes.
CO3	Appreciate advanced features in Java and their applications.
CO4	Assimilate and implement Event and GUI based Programming model in Java.
CO5	Design dynamic web application using database connectivity.

Detailed Syllabus**Section-A**

UNIT-1: Java Language Basics: Features, Object Oriented concepts, Java Virtual Machine Concepts, Primitive Data Type and Variables, Java Keywords, Java Operators, Expressions, Control Statements and Arrays. Class and Objects, Static methods, Constructors, Method Overloading

(10Hrs)

UNIT-2: Inheritance, Packages and Interfaces: Inheritance, Access Control, Method Overriding, Garbage Collection, Abstract Classes, Polymorphism, Packages, Interfaces, Exceptions Handling, Types of Exceptions, Writing Exception Subclasses, Multithreading, Synchronization in Java.

(10Hrs)

UNIT-3: I/O, Files and Applets Programming: I/O in Java, Byte Stream Classes, Character Stream Classes, Reading and Writing to Console, Reading and Writing Files, The Transient and Volatile Modifiers, String and String Buffer Class, Applet Class, An Applet Skeleton, adding images & sound, Passing parameters to an applet.

(10Hrs)**Section-B**

UNIT-4: Events and AWT : AWT Components, Building User Interface with AWT, Handling Events of Mouse and Keyboards, Event Delegation Model (Events, Listeners, interfaces), Layouts and Layout Manager

(10Hrs)

UNIT-5: Regular Expression and JDBC: Regular Expressions; JDBC implementation, Connection class, Statements, Types of statement objects, (Statement, Prepared Statement and Callable Statement), Types of result set, Result Set Metadata, Catching Database Results, Handling database Queries, JDBC and AWT.

(10Hrs)**Textbooks**

S. No.	Name of the Books	Author	Publisher	Edition (Pub. Yr.)
1	JAVA: THE COMPLETE REFERENCE	Herbert Schildt	McGraw Hill Education	12th (2022)
2	Object Oriented Programming in Java	Rick Halterman	Southern Adventist University	1st (2008)

Reference Books

S. No.	Name of the Books	Author	Publisher	Edition (Pub. Yr.)
1	Java 8 Programming Black Book	D.T. Editorial Services	Dreamtech Press	6th (2015)