



COURSE MODULE: OBJECT ORIENTED PROGRAMMING USING JAVA

Course Coordinator: Prof. Tanya R				Academic Year: 2024-25	
Department: Master of Computer Application					
Course Code	Course Title	Core/Elective	Prerequisite	Contact Hours	Total Hrs/ Sessions
				L:T: P:S	
MMC202	Object Oriented Programming using Java	Core		4:0:0	50(TH)
Course Learning Objective:					
The course will enable the students to:					
<ol style="list-style-type: none"> 1. This subject will help to improve the analytical skills of object oriented programming Formal introduction to Java programming language 2. Overall development of problem solving and critical analysis. 					
Teaching-Learning Process (General Instruction):					
<ol style="list-style-type: none"> 1. Use diverse teaching methods such as PowerPoint presentations, video demonstrations, and live coding to introduce Java concepts clearly and effectively. 2. Promote collaborative learning through group activities and peer coding sessions to enhance understanding of OOP principles and real-world application development. 3. Implement Problem-Based Learning (PBL) by assigning real-life programming challenges that develop analytical thinking, problem-solving, and critical evaluation skills. 4. Encourage hands-on practice using IDEs (Eclipse/IntelliJ) during lab sessions for topics like inheritance, exception handling, multithreading, and GUI design. 5. Assign skill development tasks or mini-projects to bridge theoretical concepts with practical application, promoting innovation and industry readiness. 6. Support learning with online resources (e.g., SWAYAM, Coursera) to reinforce classroom teaching and encourage self-paced exploration of Java programming. 					
Module-1					
The History and Evolution of Java: The Byte code, Features of Java An overview of Java: Object-Oriented Programming, Structure of a Java program, Data Types and Variables, Type conversion and casting, Arrays					
Classes: Fundamentals, Declaring Objects, Assigning Object Reference Variables, Methods, Constructors, this Keyword, Garbage Collection, Stack application					
Methods and Classes: Overloading Methods, Using Objects as Parameters, Argument Passing, Returning Objects, Access Control, static, final, Command-Line Arguments					
Module-2					
Inheritance: Basic concepts, Member Access and Inheritance, Practical Example Inheritance types, super, constructors, Method Overriding, Dynamic Method Dispatch, Abstract Classes, final with inheritance.					
String Handling: String Constructor, String length, Special string Operations, Character Extraction, String comparison, Modifying a string, String Buffer					
Generics: About Generics, A simple Generic Example, General class with Two Type Parameters, General form of generic class					
Module-3					
Packages and Interfaces: Packages, Packages and member access, Importing packages, Interfaces, Default interface methods, Use static methods in an interface, Private Interface methods.					



Exception handling: Fundamentals, Exception types, uncaught exceptions, try and catch, multiple clauses, nested try statements, throw, throws, finally, java's build-in excretions, try and catch, multiple catch clause, User-defined exceptions.

Module-4

Multithreaded Programming: Java thread model, main thread, creating thread, creating multiple threads, isalive() and Join(), thread priorities, synchronization.

Input/Output: Exploring java.io - The I/O Classes and Interfaces, The Byte Streams.

Module-5

Event Handling: Two Event Handling Mechanisms, The Delegation Event Model, Events Event Sources, Event Listeners, Event Classes- The Mouse Event Class, Event Listener Interfaces-The Mouse Listener Interface, the Mouse Motion Listener Interface, Delegation Event Model Handling Mouse Events.

AWT: Working with Windows, Graphics and Text

AWT Classes, Window Fundamentals, Working with Frame Windows, Graphic

Course Outcomes:

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

Sl. No.	Description	Blooms Level
C01	Understand the basic principles of the object-oriented programming	L1
C02	Demonstrate an introductory understanding of graphical user interfaces, multi	L2
C03	Apply the knowledge of Java concepts to find the solution for a given problem.	L3
C04	Analyse the given Java application for correctness/functionalities.	L4
C05	Develop Java programs / applications for a given requirement.	L3

Assessment Details (both CIE and SEE)

The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 50% of the maximum marks. Minimum passing marks in SEE is 40% of the maximum marks of SEE. A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course if the student secures not less than 50% (50 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together.

Continuous Internal Evaluation:

- Two Unit Tests each of 25 Marks
- Two assignments each of 25 Marks or one Skill Development Activity of 50 marks
- to attain the COs and POs
- The sum of two tests, two assignments/skill Development Activities, will be scaled down to 50 marks.
- CIE methods/question paper is designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course.

Semester End Examination:

- The SEE question paper will be set for 100 marks and the marks scored will be proportionately reduced to 50.
- The question paper will have ten full questions carrying equal marks.
- Each full question is for 20 marks. There will be two full questions (with a maximum of four sub questions) from each module.



4. Each full question will have a sub-question covering all the topics under a module.
5. The students will have to answer five full questions, selecting one full question from each module.

List of Text Books

Prescribed Text Book: Java the Complete Reference Eleventh Edition by Herbert Schildt, Tata McGraw-hill Edition , 2019.

Reference Text Books:

- 1) Introduction to JAVA Programming 9th Edition by Y. Daniel Liang, Pearson education, 2012.
- 2) Programming in JAVA 5.0 1st Edition by James P Cohoon, Jack W Davidson, TATA McGraw hill,2006.

The Correlation of Course Outcomes (CO's) and Program Outcomes (PO's)

Subject Code: MMC202		TITLE: OBJECT ORIENTED PROGRAMMING USING JAVA							Faculty: TANYA R			
List of Course Outcomes	Program Outcomes											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1			1									
CO-2								2				
CO-3			3									
CO-4				4								
CO-5								5				
Total												

Note: 3 = Strong Contribution 2 = Average Contribution 1 = Weak Contribution - = No Contribution



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