Program	BACHELOR OF VOCATION (B.Voc.)	**Semester - 2**
Type of Course	-	
Prerequisite		
Rationale	-	
Effective From A.Y.	2024-25	

Teaching Scheme (Contact Hours)				Examination Scheme				
				Theory Marks		Practical Marks		Total Marks
Lecture	Tutorial	Lab	Credit	SEE T	IAT	SEE P	CCE	
3	-	-	3	50	-	-	-	50

***SEE** - Semester End Examination, **IAT** - Internal Assessment Test, **CCE** - Continues & Comprehensive Evaluation*

Course Content

T - Teaching Hours | **W** - Weightage

Sr.	Topics	T	W
1	**Module 1** What is OOP? Concept of OOP, Principles of OOP, C++ vs JAVA, JAVA and Internet and WWW, JAVA support systems, JAVA environment. JAVA program structure, Tokens, Statements, JAVA virtual machine, Constant & Variables, Data Types, Declaration of Variables, Scope of Variables, Symbolic Constants, Type Casting. **Operators:** Arithmetic, Relational, Logical Assignments, Increment and Decrement, Conditional, Bitwise, Special, Expressions & its evaluation. If statement, if...else... statement, Nesting of if...else... statements, else...if Ladder, Switch, operators, Loops –While, Do, For, Jumps in Loops, Labelled Loops.	9	20
2	**Module 2** Defining a Class, Adding Variables and Methods, Creating Objects, Accessing Class Members, Constructors, Methods Overloading, Static Members, Nesting of Methods. **Inheritance:** Extending a Class, Overriding Methods, Final Variables and Methods, Final Classes, Finalize Methods, Abstract methods and Classes, Visibility Control.	10	25
3	**Module 3** **Arrays:** One Dimensional & two Dimensional, strings, Vectors, wrapper Classes, Defining Interface Extending Interface, Implementing Interface, Accessing Interface Variable, System Packages, Using System Package, Adding a Class to a Packages, Hiding Classes.	7	15
4	**Module 4** Creating Threads, Extending the Threads Class, Stopping and Blocking a Thread, Life Cycle of a Thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the Runnable Interface.	9	20
5	**Module 5**	10	20

Course Content

T - Teaching Hours | **W** - Weightage

Sr.	Topics	T	W
	Local and Remote Applets Vs Applications, Writing Applets, Applets Life Cycle, Creating an Executable Applet, Designing a Web Page, Applet Tag, Adding Applet to HTML File, Running the Applet, Passing Parameters to Applets, Aligning the Display, HTML Tags & Applets, Getting Input from the User.		
	Total	**45**	**100**

Suggested Distribution Of Theory Marks Using Bloom's Taxonomy

Level	Remembrance	Understanding	Application
Weightage	10	20	20

NOTE : This specification table shall be treated as a general guideline for the students and the teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcomes

At the end of this course, students will be able to:	
CO1	Understand object oriented programming concepts and implement in java
CO2	Comprehend building blocks of OOPs language and inheritance
CO3	Understand interface and packages in Java
CO4	Implement multithreading in object oriented programs
CO5	Understand the concept of Applets

Reference Books

1.	**Java Fundamentals A comprehensive introduction (TextBook)** By Herbert Schildt, Dale Skrien | McGraw Hill Education.
2.	**Programming with Java A Primer (TextBook)** By E. Balagurusamy | Mc Grawhill
3.	**Object Oriented Systems with Java, (TextBook)** By Tanweer Alam | Khanna Publishing House
4.	**Core Java (TextBook)** By Tanweer Alam | Khanna Publishing House