Subject Code	Subject Name	Teaching Scheme (Hrs.)			Credits Assigned			
		Theory	Practical	Tutorial	Theory	Practical	Tutorial	Total
ETS 306	Object Oriented Programming Methodology	--	--	--	--	--	--	--

Subject Code	Subject Name	Examination Scheme							
		Theory Marks				Term Work	Practical and Oral	Oral	Total
		Internal assessment			End Sem. Exam				
		Test 1	Test 2	Avg. Of Test 1 and Test 2					
ETS 306	Object Oriented Programming Methodology	--	--	--	--	--	--	--	--

Pre-requisites:
Course in Structured Programming Approach/ Any Programming Language

Course Objectives:
- To understand the concept of Object Oriented Programming
- To help student to understand use of programming language such as JAVA to resolve problems.
- To impart problems understanding, analyzing skills in order to formulate Algorithms.
- To provide knowledge about JAVA fundamentals: data types, variables, keywords and control structures.
- To understand methods, arrays, inheritance, Interface, package and multithreading and concept of Applet.

Course Outcomes:
- Students will be able to code a program using JAVA constructs.
- Given an algorithm a student will be able to formulate a program that correctly implements the algorithm.
- Students will be able to generate different patterns and flows using control structures and use recursion in their programs.
- Students will be able to use thread methods, thread exceptions and thread priority.
- Students will implement method overloading in their code.
- Students will be able to demonstrate reusability with the help of inheritance.
- Students will be able to make more efficient programs.

Module No.	Unit No.	Topic	Hrs.
1		**Fundamental concepts of object oriented programming**	4
	1.1	Overview of programming	
	1.2	Introduction to the principles of object-oriented programming: classes, objects, messages, abstraction, encapsulation, inheritance, polymorphism, exception handling, and object-oriented containers	
	1.3	Differences and similarity between C++ and JAVA	
2		**Fundamental of Java programming**	4
	2.1	Features of Java	
	2.2	JDK Environment & tools	
	2.3	Structure of Java program	
	2.4	Keywords , data types, variables, operators, expressions	
	2.5	Decision making, looping, type casting	
	2.6	Input output using scanner class	
3		**Classes and objects**	6
	3.1	Creating classes and objects	
	3.2	Memory allocation for objects	
	3.3	Passing parameters to Methods	
	3.4	Returning parameters	
	3.5	Method overloading	
	3.6	Constructor and finalize ( )	
	3.7	Arrays: Creating an array	
	3.8	Types of array : One dimensional arrays ,Two Dimensional array, string	
4		**Inheritance, interface and package**	6
	4.1	Types of inheritance: Single, multilevel, hierarchical	
	4.2	Method overriding, super keyword, final keyword, abstract class	
	4.3	Interface	
	4.4	Packages	
5		**Multithreading**	4
	5.1	Life cycle of thread	
	5.2	Methods	
	5.3	Priority in multithreading	
6		**Applet**	2
	6.1	Applet life cycle	
	6.2	Creating applet	
	6.3	Applet tag	
		Total	26

Text Books:
   1. Rajkumar Buyya, "*Object-oriented programming with JAVA*", Mcgraw Hill
   2. E Balgurusamy, *"Programming with JAVA",* Tata McGraw Hill

Reference Books:
   1. Herbert Schildt, *"The Complete Reference JAVA",* Tata McGraw Hill
   2. Barry Holmes and Daniel T. Joyce, *"Object Oriented Programming with Java",* Jones & Bartlett Learning