SEMESTER S7

OBJECT ORIENTED PROGRAMMING

Course Code	PEEIT741	CIE Marks	40
Teaching Hours/Week (L: T:P: R)	3:0:0:0	ESE Marks	60
Credits	3	Exam Hours	2 Hrs. 30 Min.
Prerequisites (if any)	None	Course Type	Theory

Course Objectives:

1. To familiarize the students on the concepts of Object-Oriented Programming
2. To enable the students to develop programs with exception handling , event handling and multi threading

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Introduction to Java** - Java programming Environment and Runtime Environment, Development Platforms -Standard, Enterprise. Java Virtual Machine (JVM), Java compiler, Bytecode, Java Buzzwords, Java program structure. Java Fundamentals: Primitive Data types - Integers, Floating Point Types, Characters, Boolean. Literals, Type Conversion and Casting, Variables, Arrays, Strings, Operators - Control Statements -Selection Statements, Iteration Statements and Jump Statements.	9
2	**Object Oriented Programming in Java** – Class Fundamentals, Declaring Objects, Introduction to Methods, Constructors, this Keyword. Method Overloading, Access Control, Final Variables, Inner Classes. Inheritance - Super Class, Sub Class, The Keyword super, protected Members, Calling Order of Constructors, Method Overriding, Abstract Classes and Methods, using final with Inheritance.	9
3	**Packages and Interfaces** – Defining Package, Importing Packages, Interfaces. Exception Handling – Checked Exceptions, Unchecked Exceptions, try Block and catch Clause, Multiple catch Clauses,throw, throws and finally. Input/Output - I/O Basics ,Reading Console Input, Writing Console Output, Working with Files. String Handling – String	9

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	Constructors, String Length, Special String Operations .	
4	**Advanced features of Java-**Event handling - Event Handling Mechanisms, Delegation Event Model, Event Classes, Sources of Events, Event Listener Interfaces, Using the Delegation Model.Multithreaded Programming - The Java Thread Model ,The Main Thread, Creating Thread, Creating Multiple Threads, Synchronization, Suspending, Resuming and Stopping Threads.	**9**

Course Assessment Method
(CIE: 40 marks, ESE: 60 marks)

Continuous Internal Evaluation Marks (CIE):

Attendance	Assignment/ Microproject	Internal Examination-1 (Written)	Internal Examination- 2 (Written)	Total
5	**15**	**10**	**10**	**40**

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End Semester Examination Marks (ESE)

In Part A, all questions need to be answered and in Part B, each student can choose any one full question out of two questions

Part A	Part B	Total
• 2 Questions from each module. • Total of 8 Questions, each carrying 3 marks **(8x3 =24marks)**	• Each question carries 9 marks. • Two questions will be given from each module, out of which 1 question should be answered. • Each question can have a maximum of 3 sub divisions. **(4x9 = 36 marks)**	**60**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Utilize datatypes, operators, control statements and iterative statements in JAVA	**K2**
CO2	Understand Basic Concepts of OOP, introduction to classes and objects through Java Language and apply	**K3**
CO3	Understand the concepts of constructors, Overloading, parameter passing, access control, Inheritance and apply.	**K2**
CO4	Understand Packages, Interfaces, and Exception Handling and apply.	**K3**
CO5	Write application programming JAVA using event handling and multi threading	**K3**

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

CO-PO Mapping Table (Mapping of Course Outcomes to Program Outcomes)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2						2	3	2
CO2	3	2	3	2							3	2
CO3	3	3	3	2							3	3
CO4	3	3	3	2							3	3
CO5	3	2	3	2						2	3	2

Note: *1: Slight (Low), 2: Moderate (Medium), 3: Substantial (High), -: No Correlation*

Text Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Java: The Complete Reference, 8/e	Herbert Schildt	Java: The Complete Reference	8/e,2011
2	Paul Deitel, Harvey Deitel	Java How to Program,	Pearson,	11 th Edition,2018.

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Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Y. Daniel Liang	Introduction to Java Programming	Pearson	7/e, 2013.
2	Nageswararao R.	Core Java: An Integrated Approach	Dreamtech Press,	2008.
3	Balagurusamy E.	Programming JAVA a Primer	McGraw Hill,	5/e, 2014.

Video Links (NPTEL, SWAYAM…)	
Module No.	**Link ID**
1	https://onlinecourses.nptel.ac.in/noc19_cs84/preview
2	
3	
4	

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