SEMESTER-I

Course Code	PIT21C101J	Course Name	JAVA PROGRAMMING	Course Category	C	Professional Core Course	L	T	P	C
							3	0	4	5

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	Computer Science	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to,	Learning	Program Learning Outcomes (PLO)

CLR-1 :	*An overview of Java and Buzz words*
CLR-2 :	*Understand the object oriented features in Java*
CLR-3 :	*Create and understand the Java program structure*
CLR-4 :	*Understand the Java packages and Interfaces*
CLR-5 :	*Use the multithreading programming scenario*
CLR-6 :	*Create applet and use AWT tools*

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Disciplinary Knowledge	Critical Thinking	Problem Solving	Analytical Reasoning	Research Skills	Team Work	Scientific Reasoning	Reflective Thinking	Self-Directed Learning	Multicultural Competence	Ethical Reasoning	Community Engagement	ICT Skills	Leadership Skills	Life Long Learning
		1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CLO-1 :	*Understand the difference between C++ and Java*	2	85	80	H	H	H	H	H	-	-	M	M	L	-	H	-	-	-
CLO-2 :	*Develop Java program using JVM*	3	85	80	L	H	H	H	H	-	-	M	M	L	-	H	-	-	-
CLO-3 :	*Use the various kinds of packages and interfaces*	3	85	80	L	H	H	H	H	-	-	M	M	L	-	H	-	-	-
CLO-4 :	*Apply the Exception handling methods in Java program.*	3	85	80	L	H	H	H	H	-	-	M	M	L	-	H	-	-	-
CLO-5 :	*Identify applet and application programming*	3	85	80	L	H	H	H	H	-	-	M	M	L	-	H	-	-	-
CLO-6 :	*Understand the Java I/O classes and collections interfaces.*	3	85	80	L	H	H	H	H	-	-	M	M	L	-	H	-	-	-

Duration (hour)		21	21	21	21	21
S-1	SLO-1	*The Genesis of Java How java changed the internet- Java's magic: Byte Code*	*Introducing classes- Class fundamentals- Declaring Objects Assigning object Reference variables- Introducing method*	*Inheritance Basics Understanding Types of Inheritance: Single, Multilevel, Hierarchical Inheritance*	*Introduction to Java Thread model Creating a Thread by Extending Thread Class*	*Introduction to Event Handling - Understanding Action Event & Item Event Understanding Key Event & Mouse Event*
	SLO-2	*Introduction to Java Buzzword- Understanding Java Buzzwords Simple, Object Oriented, Robust, Multithreaded, Architecture*	*What are Constructors? What are the Characteristics of constructors? Understanding Types of Constructors -Using this Keyword*	*How does java support multiple inheritance? - using Super keyword What is Method Overriding?*	*Creating a Thread by implementing Runnable Interface Thread Class*	*Text Event, Window Event, Component Event- Introduction to Event Listener Interfaces Working with Action Listener &, Adjustment Listener*
S2	SLO-1	*Neutral, Interpreted and high performance, Distributed, Dynamic*	*Introduction to Garbage Collection*	*Understanding Dynamic method dispatch - Introduction to Abstract keyword*	*Creating multiple threads*	*Working with Container Listener,*
	SLO-2	*Evolution of Java*	*Using Finalize() method*	*Introduction with Abstract class*	*Assigning Thread priorities*	*Working with Key Listener & Mouse Listener*
S3	SLO-1	*Introduction to Object Oriented Concepts of Java Understanding Encapsulation, Polymorphism, Inheritance*	*Overloading methods- Overloading constructors Using objects as parameters- Argument Passing*	*Working with Abstract class and Method & Using final with inheritance Introduction to Package -*	*Applying Synchronization- Inter-thread communication Introduction to Legacy Calsses*	*Item Listener, Component Listener*
	SLO-2	*Introduction to Lexical Issues of Java Understanding Whitespaces, Identifiers,Literals Comments, Separators, Keywords*	*Returning Objects- Recursion*	*Creating a Package Understanding Access Protection- Importing packages*	*Working with Vector class Examples using Vector class*	*Introduction AWT Controls Working with Label controls*

S4 – S7	SLO-1 ——— SLO-2	Laboratory 1*: Learning to work with Java IDE and Writing Simple Conversion Programs*	Laboratory *4: Classes and Objects*	Laboratory ***7:** Inheritance, Method Overriding, Abstract classes and methods*	Laboratory *10: Multithreading*	Laboratory *13: Event Handling*
S8	SLO-1	*Introduction to Data types of Java, Understanding byte,short,int,long, float,double,chars,Boolean*	*Introducing Access Control*	*Introduction to Interfaces*	*Understanding Stack class*	*Working with Buttons controls*
	SLO-2	*What is variable?, Declaring a variable, dynamic initialization of variables, Scope and lifetime of variables*	*Understanding Static variables and methods*	*Defining an interface*	*Examples using Stack class*	*Working with Check Boxes*
S9	*SLO-1*	*Introduction to Operators, Working with Arithmetic, Relational, Logical, Bitwise, Conditional, Assignment operators*	*Understanding Final variables and methods Working with Nested Class*	*Implementing Interfaces How Interfaces are extended*	*Introduction to Legacy Interfaces Understanding Enumeration Interface*	*Working with Check Box Group controls Working with Choice controls controls*
	SLO-2	*What is Array?, Initialization of Arrays, Understanding Types of Arrays Introduction to Control Statements*	*Understanding Inner Class Introduction to String Class*	*What is Exception? Exception handling*	*Examples using Enumeration interface Introduction to Utility classes*	*Working with Lists controls Working with Text Field controls*
S10	SLO-1	*IF, IF the else statements*	*String array*	*Introduction to Exception handling*	*Working with String Tokenizer*	*Introduction to Layout Manager*
	SLO-2	*Working with Selection Statements ,All forms of if & Switch*		*Working with try and catch*		*Understanding Flow Layout*

S11-14	SLO-1 SLO-2	Laboratory *2: Operators*	Laboratory *5: Overloading Methods and Constructors*	Laboratory *8: Packages and Interfaces*	Laboratory *11: Legacy Classes and Interfaces*	Laboratory *14: AWT Controls*
S-15	SLO-1	*Introduction to Iterative Statements,*	*Working with String Handling Methods*	*Using multiple catch clauses*	*Introduction Working with Date class-*	*Understanding Border Layout*
	SLO-2	*Working with while, do-while,*		*Working with Finally*	*Introduction Working with Gregorian Calendar*	*Understanding Grid Layout*
S-16	SLO-1	*for, for each statements*	*Command Line arguments*	*Throw and throws*	*Working with Date class- Working with Calendar*	*Byte Streams classes*
	SLO-2	*Introduction to Jump Statements-*	*finalize() method*	*Understanding Exception Types*	*Working with Gregorian Calendar- Working with Random Class*	*Introduction to I/O Streams*
S-17	SLO-1	*Working with break statements*	*Single line arguments*	*Understanding Built-in Exceptions*	*Working with Scanner Class*	*Character Streams classes*
	SLO-2	*continue and return statements*	*Double line arguments*	*Creating user defined Exceptions*	*Examples using utility classes*	*Examples using Byte and Character Streams*
S18-21	SLO-1 SLO2	Laboratory *3: Arrays, Control Statements*	Laboratory *6: String Class, Command Line Arguments*	Laboratory *9: Exception Handling*	Laboratory *12: Utility Classes*	Laboratory *15: Layout Managers, Byte and Character Streams*

Learning Resources	1. Herbert Schildt (2007), Java: The Complete Reference, Tata McGraw-Hill, Seventh Edition, New Delhi.	1. Horstmann S., Gray Cornell (2001), Core Java 2 Volume In, Fundamentals, Addition Wesley, New York. 2. Amold and Gosling, J. (2000), The Java Programming Language, Addition Wesley, 2nd Edition, New Delhi. 3. Art Gittleman (2002), Ultimate Java Programming, Wiley Publications, New York.

Learning Assessment											
Bloom's Level of Thinking		Continous Learning Assessment(50% Weightage)								Final Examination (50% weightage)	
		CLA – 1 (10%)		CLA – 2 (10%)		CLA – 3 (20%)		CLA – 4# (10%)			
		Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	20%	20%	15%	15%	15%	15%	15%	15%	15%	15%
	Understand										
Level 2	Apply	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%

	Analyze										
Level 3	Evaluate	10%	10%	15%	15%	15%	15%	15%	15%	15%	15%
	Create										
	Total	100 %		100 %		100 %		100 %		100%	

CLA – 4 can be from any combination of these: Assignments, Seminars, Short Talks, Mini-Projects, Case-Studies, Self-Study, MOOCs, Certifications, Conf. Paper etc

Course Designers		
Experts from Industry	**Experts from Higher Technical Institutions**	**Internal Experts**
Mr. S. Karthik, IT Analyst, Tata Consultancy Services	Dr. Neelanarayanan,, Professor, School of Computer Science and Engineering, VIT Chennai	Mr. M. D. Bakthavachalam
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