

16MA304	FUNDAMENTALS OF JAVA PROGRAMMING	3/0/0/3		
<b>Course Pre-requisites: Nil</b>				
<b>Course Objectives:</b>				
<div><div></div><div>1. To introduce students the basic concepts and techniques which form the object oriented programming paradigm</div><div>2. To learn the basic syntax and semantics of the Java language and programming environment</div><div>3. The students should be able to create Java programs that leverage the object oriented features of the Java language</div><div>4. Be able to implement, compile, test and run Java programs comprising more than one class, to address a particular software problem.</div></div>				
<b>Course Outcomes:</b>				
Upon completion of the course, students shall have ability to				
<div><div></div><div>1. An understanding of the principles and practice of object oriented programming and design in the construction of robust, maintainable programs which satisfy their requirements;</div><div>2. A competence to design, write, compile, test and execute straightforward programs using a high level language;</div><div>3. Analyze and explain the behavior of programs involving the fundamental program constructs</div><div>4. How to take the statement of a business problem and from this determine suitable logic for solving the problem; then be able to proceed to code that logic as a program written in Java</div></div>				
Course Contents				
UNIT NO.	DESCRIPTION	TEXT BOOK	PAGES	LECTURE HOURS
I	Introduction to Java - Features of Java - Object Oriented Concepts	T1	3-33	2
	Data Types - Variables - Arrays	T1	33-56	2
	Operators - Control Statements	T1	57-103	3
II	Classes – Objects- Constructors- Overloading method- Access Control- Static Methods-final class-Strings	T1	125-155	3
	Inheritance- Using super-Overriding-Dynamic method overriding –final methods	T1	157-181	2
	Packages and interfaces	T1	183-202	2
	Collections			2
III	Exception Handling fundamentals	T1	205-212	2
	Throw and Throws	T1	213-214	1
	Thread –Life cycle of thread	T1	223-226	1
	Multithreaded programming	T1	228-233	2
	thread Priority	T1	236-238	1
	Synchronization	T1	238-241	1
	Inter thread Communication	T1	242-247	1
IV	I/O Streams	T1	555-598	2
	File Streams	T1	579-587	2
	Networks basics- Socket Programming- Address	T1	599-603	2
	TCP/IP server sockets	T1	612-613	1
	Datagram	T1	603-615	2
V	Applets - Classes	T1	617-636	2
	Event handling	T1	637-662	2
	Working with windows using AWT- AWT Controls	T1	701-21	2
	Layout Managers	T1	723-753	2
	Menus.	T1	754-760	1
Total instructional hours:45				
TEXT BOOKS:				
T1.H.Schildt-Java :The Complete Reference – Ninth Edition,TMH 2014. (Units 1,2,3,4,5)				

<b>REFERENCE BOOKS:</b>
<ol style="list-style-type: none"><li>1. K. Arnold and J. Gosling - The Java Programming Language - Second Edition, Addison Wesley, 1996.</li><li>2. Cay S. Horstmann, Gary Cornell - Core Java 2 Volume I Fundamentals, 5th Edn. PHI, 2000.</li></ol>
<b>WEB REFERENCES:</b>
<ol style="list-style-type: none"><li>1. <a href="https://docs.oracle.com/javase/tutorial/">https://docs.oracle.com/javase/tutorial/</a></li><li>2. <a href="http://tutorialpoint.com">http://tutorialpoint.com</a></li></ol>

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