Course Content Core Java [216 Hours OR 108 days]

Index	Topics	Duration
1	Introduction to Language	2 Hours
2	Introduction to Java	6 Hours
	a) Flavors of Java, History of Java, Features of Java, Introduction to JDK, JRE, JVM and JIT Compiler.	
3	Platform Independency in java	2 Hours
	a) Difference between Compiler and Interpreter	
4	Token in Java	2 Hours
	a) Keywords, Identifiers, Literals, Punctuators and Operators	
5	Moving towards First Program of Java	4 Hours
	a) Description of main method	
	b) How to download and install Java	
	c) First Java program using Notepad, Edit plus and Eclipse IDE	
6	Types of Literals in java	8 Hours
	a) Integral Literal b) Floating point Literal c) Char Literal d) Boolean Literal e) String Literal f) null literal	
7	Operators	8 Hours
	a) Arithmetic Operator b) Unary Operators c) Assignment Operator	

	d) Relational Operator e) Logical Operators f) Boolean Operators g) Bitwise Operators h) Ternary Operator i) Member Operator(.) j) new Operator k) instanceof Operator	
8	Data types and Type casting in java	2 Hours
9	Programs on Method Parameter and return type	4 Hours
10	Introduction to Object Oriented Programming	20 Hours
	a) OOPs Features and Advantages	
	b) Class, Object, Abstraction, Encapsulation, Inheritance and Polymorphism	
	c) Default constructor added by compiler	
	d) Why compiler adds default constructor to our class	
	e) Types of variables (Primitive and Reference)	
	f) Instance variable, Static variable, Parameter variable and local variable	
	g) How to provide our own user defined values for instance variable	
	h) this keyword	
	i) Role of instance variable while creating the Object	
	j) Working with static variable while creating the Object	
	k) When we should declare a variable as an instance or static variable?	
	l) Data Hiding	
	m) Abstraction	
	n) Encapsulation	

	o) How to print object properties value (instance variable value)	
	p) Setter and Getter	
10	Introduction to Constructor	6 Hours
	a) Advantage of Constructor	
	b) Types Of Constructor	
	c) Default, No Argument and Parameterized Constructor	
	d) Passing Object reference to the constructor(Copy Constructor)	
	e) Instance Block in java	
	f) How many ways we can initialize object properties(instance variable)	
11	Relationship between the classes	8 Hours
	a) IS-A (Inheritance) Relation and HAS-A(Association) Relation	
	b) Introduction to Inheritance (IS-A relation)	
	c) Types of Inheritance	
	d) this() and super()	
	e) Why java does not support multiple inheritance	
	f) Access modifiers in Java	
	g) HAS-A relation(Association)	
	h) Composition and Aggregation	
12	Wrapper classes in Java	4 Hours
	a) Autoboxing and Unboxing	
13	Introduction to Polymorphism	10 Hours
	a) Method Overloading, Var-Args,	
	b) Ambiguity issues while overloading a method	

	c) Method Overriding	
	d) Upcasting and Downcasting	
	e) @Override Annotation	
	f) Role of Access Modifier while Overriding a method	
	g) Co-variant concept in method overriding	
	h) Method Hiding	
14	final keyword in Java	2 Hours
15	Object class and its method	4 Hours
	a) getClass(), hashCode(), toString(), equals(Object o)	
16	Abstract class and abstract methods	4 Hours
17	Introduction to interface	10 Hours
	a) Default and static method(**Java 8 features**)	
	b) Functional interfaces	
	c) Lambda Expression	
	d) Predicate<T>, Consumer<T>, Supplier<T>, Function<T,R>	