



**Annexure VIII (D)**

**ABES Engineering College, Ghaziabad**  
**Department of Computer Science**  
**Lecture Plan**

Program	Sem	Course Name	Course Code	Periods (University)			Evaluation Scheme				Course Total	Credit
				L	T	P	Sessional Marks			UE		
							CT	TA	Total			
B.Tech.	4th	Object Oriented Programming with Java	BCS403	4	0	2	20	10	30	70	100	4

Periods (Actual)			Name of Faculty	Vertical/Domain Head	Date of Commencement	Total lectures planned	Date of Conclusion
L	T	P					
4	0	2	Ms.Lopamudra Mohanty/ Ms. Anshul Khanna/ Mr. Abhishek Kesharwani	Mr. Abhishek Kesharwani	1 April 2024	47	5 <sup>th</sup> July 2024

L-T Schedule	Name of the Topic as given in the Syllabus	KL	Assign/ Quiz/CT
<b>Unit-1</b>	<b>Introduction</b>		
L-1	OOP's Concepts, Why Java, History of Java, Feature of Java	<b>K2</b>	<b>Quiz-1 &amp; Quiz-2/ Assignment 1</b>
L-2	JVM, JRE, Java Environment, Java Source File Structure, and Compilation	K2	
L-3	Tokens of Java: Operators, Variables, Data types etc. Comments	K2	
L-4	Encapsulation, Defining Classes in Java, Control Flow	K2	
L-5	Arrays & String	K2	
L-6	Class, Object, Constructors, Methods	K2	
L-7	Static Members, Final Members	K2	
L-8	Inheritance Super Class, Sub Class, Access Specifies	K2, K3	
L-9	Polymorphism, Overriding, Overloading	K2, K3	
L-10	Abstraction, Interfaces, and Abstract Class	K2, K3	
L-11	Defining Package, CLASSPATH Setting for Packages	K2	
L-12	Making JAR Files for Library Packages, Import and Static Import Naming Convention for Packages	K2	
<b>Unit-2</b>	<b>Exception Handling &amp; Multithreading</b>		
L-13	The Idea behind Exception, Exceptions & Errors, Types of Exception, Checked and Un-Checked Exceptions	K2, K3	<b>Quiz-3 &amp; Quiz-4 / Assignment-2</b>
L-14	Control Flow in Exceptions, JVM Reaction to Exceptions, Use of try, catch	K2, K3	
L-15	finally, throw, throws in Exception Handling	K2, K3	
L-16	In-built and User Defined Exceptions	K2, K3	
L-17	Byte Streams and Character Streams, Reading and Writing File in Java.	K2, K3	
L-18	Thread, Thread Life Cycle,	K2, K3	
L-19	Creating Threads, Thread Priorities	K2, K3	
L-20	Synchronizing Threads, Inter-thread Communication	K2, K3	
<b>Unit-3</b>	<b>Java New Features</b>		
L-21	Functional Interfaces, Lambda Expression	K2, K3	<b>Quiz-5 &amp; Quiz-6 / Assignment-5</b>
L-22	Method References, Stream API, Default Methods	K2, K3	
L-23	Static Method, Base64 Encode and Decode	K2, K3	

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L-24	ForEach Method, Try-with resources, Type Annotations, Repeating Annotations	K2, K3	
L-25	Java Module System, Diamond Syntax with 08 Inner Anonymous Class	K2, K3	
L-26	Local Variable Type Inference, Switch Expressions, Yield Keyword	K2, K3	
L-27	Text Blocks, Records, Sealed Classes	K2, K3	
<b>Unit-4</b>	<b>Java Collections Framework</b>		
L-28	Collection in Java, Collection Framework in Java, Hierarchy of Collection Framework	K2	<b>Quiz-7 &amp; Quiz-8 / Assignment-4</b>
L-29	Iterator Interface, Collection Interface, List Interface, ArrayList, LinkedList	K2, K3	
L-30	Vector, Stack, Queue Interface	K2, K3	
L-31	Set Interface, HashSet, LinkedHashSet	K2, K3	
L-32	SortedSet Interface, TreeSet,	K2, K3	
L-33	Map Interface, HashMap Class, LinkedHashMap Class	K2, K3	
L-34	TreeMap Class, Hashtable Class	K2, K3	
L-35	Sorting	K2, K3	
L-36	Comparable Interface, Comparator Interface, Properties Class in Java	K2, K3	
<b>Unit-5</b>	<b>Spring Framework &amp; Spring Boot</b>		
L-37	Spring Core Basics-Spring Dependency Injection concepts, Spring Inversion of Control	K2, K3	<b>Quiz-9 &amp; Quiz-10 / Assignment-5</b>
L-38	AOP, Bean Scopes- Singleton, Prototype	K2, K3	
L-39	Request, Session, Application	K2, K3	
L-40	Web Socket, Auto wiring	K2, K3	
L-41	Annotations, Life Cycle Call backs	K2, K3	
L-42	Bean Configuration styles	K2, K3	
L-43	Spring Boot Build Systems, Spring Boot Code Structure, Spring Boot Runners, Logger	K2, K3	
L-44	BUILDING RESTFUL WEB SERVICES	K2, K3	
L-45	Rest Controller, Request Mapping	K2, K3	
L-46	Request Body, path Variable, Request Parameter	K2, K3	
L-47	GET, POST, PUT, DELETE APIs, Build Application	K2, K3	

KL- Bloom's Knowledge Level (K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>, K<sub>4</sub>, K<sub>5</sub>, K<sub>6</sub>)

K<sub>1</sub> – Remember K<sub>2</sub> – Understand K<sub>3</sub> – Apply K<sub>4</sub> – Analyze K<sub>5</sub> – Evaluate K<sub>6</sub> – Create

**Text Books:**

Herbert Schildt, "Java The complete reference", McGraw Hill Education

Craig Walls, "Spring Boot in Action" Manning Publication

Steven Holzner, "Java Black Book", Dreamtech.

Balagurusamy E, "Programming in Java", McGraw Hill

**Reference Books:****Web references:**

[https://www.youtube.com/watch?v=YpsFT50mths&list=PLd3UqWTnYXOlyAjYLwPflpu3yqH\\_vAY8x](https://www.youtube.com/watch?v=YpsFT50mths&list=PLd3UqWTnYXOlyAjYLwPflpu3yqH_vAY8x)

<https://www.javatpoint.com/java-tutorial>

**Signature of Faculty with Date**