BUDDHA INSTITUTE OF MANAGEMENT

DEPARTMENT OF COMPUTER APPLICATION

ACADEMIC YEAR 2025-26 (Even Semester)

LESSON PLAN

Semester: 4	Section: A	Course Code: BBC401	Contact Hours /week: 60/5
Course name: Java Programming			# of credits:4
Teacher's name:**Mr. Dhananjay Yadav**			Designation: AP
Sessional Marks: 30		End Semester Examination Marks: 70	University Exam Hours: 3

Prerequisites if any:BBC301: Object Oriented Programming In C++
NA

Content delivery methods:	By Face to face delivery, Presentation, Tutorial etc.

COURSE SYLLABUS (as prescribed by University / Board)

Module No	UNIT Contents	Hours	COs
1	**Introduction:** History of Java, Characteristics of Java, The Java Environment, Java Source File Structure and Compilation. Fundamental Programming Structures in Java: Data type, Variables, Comments, Operators, Methods & Classes, Constructors, Arrays, Control Statements, Access specifies.	11	CO1

2	**Inheritance, Interfaces, and Packages:** OOP in Java, Inheritance and its types, super and this keyword, final and static keyword, method overloading and overriding, abstract classes and methods. Defining an interface, implement interfaces, accessing implementations through interface references, extending interface. Packages- Defining, creating and accessing a package, importing packages**.**	12	CO2
3	**Exception handling & File I/O:** Define Exception, advantages of exception handling, Exception hierarchy, checked exceptions and unchecked exceptions, usage of try, catch, throw, throws and finally, creating own exception. Introduction to file I/O(Input/Output).	12	CO3
4	**Java Awt& Swing:** Differences Swing and AWT, Creating a Swing Applet and Application, Programming using Panes, Labels, Text fields, Buttons, Scroll Bars, Lists, Combo box, Progress Bar, Menus and Toolbars, Layouts, Windows, Dialog Boxes, Inner frame. JDBC: Introduction to JDBC, Java.sql package, Introduction to MySQL Database, Server and connectivity to remote database.	14	CO4
5	**Java Servlets:** Servlet basics, Servlet API basic, Life cycle of a Servlet, Running Servlet, Debugging Servlets, Thread-safe Servlets, HTTP Redirects, Cookies, Introduction to Java Server pages (JSP).	11	CO5

COURSE OUTCOMES: At the end of the Course, the Student will be able to:

CO1	List the significance, key features, and principles of Object-Oriented Programming in Java.
CO2	Analyze basic structural, behavioral, and architectural models using objectoriented software engineering in Java.
CO3	Illustrate object-oriented modeling techniques and build GUI/web-based applications using Java APIs.
CO4	Use the core Java features like abstraction, encapsulation, constructors, and garbage collection in Java programs.
CO5	Utilize Java generics and file handling mechanisms effectively for modular programming.

Mapping of CO v/s PO:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1	1	1	1	1	1	-	1	1	1	1
CO2	1	1	1	2	1	-	-	-	1	1	1	1
CO3	2	2	1	2	1	-	-	-	-	-	1	1
CO4	2	1	1	1	1	1	-	-	-	-	1	1
CO5	1	1	1	2	1	-	-	-	1	1	1	1
Average	1.4	1.2	1.0	1.6	1.0	0.4	0.2	-	0.6	0.6	1.2	1.4

	PSO1	PSO2	PSO3
CO1	2	1	1
CO2	2	1	1
CO3	2	1	1
CO4	2	1	1
CO5	2	1	1
Average	2	1	1

Correlation levels: 1-Slight (Low) 2-Moderate (Medium) 3-Substantial (High)

Gap in the syllabus	NA

Topics to be covered beyond syllabus	NA

LESSON PLAN

Lecture	Module	Scheduled				Conducted			
		Topic	*RBT Levels	C O Mapping	Date	Topic	Date	No. Of Students	Faculty Sign
1	I	Introduction	L2	CO1					
2		History of Java	L2						
3		Characteristics of Java	L2						
4		The Java Environment	L2						
5		Java Source File Structure and Compilation	L2						
6		**Tutorial-1**							
7		Fundamental Programming Structures in Java	L2						
8		Data type, Variables, Comments, Operators,	L2						
9		Methods & Classes, Constructors,	L2						
10		Arrays, Control Statements, Access specifies.							
11		**Tutorial-2**	L2						
12		Inheritance, Interfaces, and Packages	L2						
13		OOP in Java, Inheritance and its types	L2						

14		uper and this keyword, final and static keyword	L3						
15		method overloading and overriding	L2						
16	II	abstract classes and methods	L2	CO2					
17		**Tutorial-3**							
18		Defining an interface, implement interfaces,	L3						
19		accessing implementations through interface references	L3						
20		, extending interface.	L3						
21		Packages- Defining, creating	L3						
22		and accessing a package, importing packages	L3						
23		**Tutorial-4**							
24		Exception handling & File I/O	L3						
25		Define Exception,	L3						
26		advantages of exception handling	L3						
27		Exception hierarchy	L3						
28	III	checked exceptions	L3	CO3					
29		**Tutorial-5**							
30		unchecked exceptions	L3						
31		usage of try, catch, throw	L3						

32		throws and finally	L3						
33		creating own exception	L3						
34		Introduction to file I/O(Input/Output).	L3						
35		**Tutorial-6**							
36		Java Awt& Swing	L3						
37		Differences Swing and AWT	L3						
38		Creating a Swing Applet and Application	L3						
39		Programming using Panes	L3						
40		**Tutorial-7**							
41		Labels, Text fields, Buttons, Scroll Bars	L3						
42		Lists, Combo box, Progress Bar	L3						
43	**IV**	Menus and Toolbars, Layouts, Windows,	L3	CO4					
44		Dialog Boxes, Inner frame.	L3						
45		JDBC: Introduction to JDBC	L3						
46		Java.sql package,	L4						
47		Server	L4						
48		connectivity to remote database.	L4						
49		**Tutorial-8**							
50		Java Servlets	L4						
51		Servlet basics	L4						
52		Servlet API basic	L4						
53		Life cycle of a Servlet	L4						
54		**Tutorial-9**							

55	V	Running Servlet	L4	CO5					
56		Debugging Servlets	L4						
57		Thread-safe Servlets	L4						
58		HTTP Redirects, Cookies	L4						
59		Introduction to Java Server pages (JSP).	L4						
60		**Tutorial-10**							

Class Test	**Syllabus**
CT-01	**1-44**
PRE-AKTU	**1-60**

***Revised Bloom's Taxonomy (RBT) Levels:**
L1 – Remembering; L2 – Understanding; L3 – Applying; L4 – Analysing; L5 – Evaluating; L6 - Creating

References:
Text books :(As per University / Board syllabus)

T1. Mano M. M., "Computer System Architecture", PHI.
T2. Stallings W., "Computer Organization and Architecture-Designing for Performance", Pearson Education.

Reference Books:(As per University / Board syllabus)

R1.Hamacher C., Vranesic Z. and Zaky S., "Computer Organization", McGraw-Hill.
R2.Tannenbaum A.S., "Structured Computer Organization", PHI.

Faculty Sign **HOD's sign**