Department of Computer Science

Lesson Plan (Session 2022-2023)

Class: BVSD Sem: IV   **Course Code:** BVSD-43

Nomenclature: Java Programming   **Duration: 13 Weeks**

 Dates: (Feb 2023-April 2023)

SYLLABUS

BVSD-43 Java Programming

Maximum Marks: 100	**External: 80**	**Minimum Pass Marks: 35**
Internal: 20	**Time: 3 hours**	

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of objective type/short-answer type questions covering the entire syllabus. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus.

Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory.   In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit. All questions will carry equal marks.

Unit I

JAVA and the Internet: The Java Programming Language and its Characteristics, Java Runtime Environment, Java Compiler, Java Developers Kit, Running Java Applications and Java Applets. Java Programming: Elements of Java Data Types, Scalar Data Types, First Class Objects, Control Structures.

Unit II

Classes and Objects: Introduction, Creating Objects and References, Defining Classes, Class Inheritance, Constructor, Access Mechanism;
Array and String: Creating an Array, One and Two Dimensional Array, String and String Buffer Classes, Wrapper Classes.

Unit III

Inheritance: Member Access, Super Class, Creating Multi Level Hierarchy, Method Overloading and Overriding, Abstract Class, Method, Using Final to Prevent Overriding and Overloading, The Object Class Packages and Interfaces, Defining Packages, Access Protection, Importing Packages, Defining Interfaces.

Exception Handling: Exception Types, Uncaught Exceptions, Multiple catch Clauses, Nested try Statements, throw, throws Finally, Java built-in Exceptions, Creating your own Exception Subclasses.

Unit IV

Multithreaded Programming: Creating threads, run() Method, new thread, thread Class, Stopping and Blocking threads, Life Cycle of thread - New Born, Runnable, Running, Blocked, Dead, Waiting, Sleeping, Suspended, Blocked, using thread Methods, thread Exceptions, thread Priority, Synchronization, Implementing the Runnable Interface.

TEXT BOOKS:

- Douglas E. Comer, Computer Networks & Intrenets, 2nd Edition, Addison Wesley, 2000
- Ince Darrel & Freeman Adam, Programming the internet with Java, Revised Edition, Addison Wesley, 2000

REFERENCE BOOKS:

- Arnold, Gosling, Homes, The Java Programming Language, 3rd Edition, Addison Wesley, 2000
- Mughal K.A., Rasmussen R.K., A Programmer's Guide to Java Certification, Addison Wesley, 2000

COURSE TITLE	Java Programming
CO No.	Course Outcomes
CO-1	State OOPS and Relate java syntax with C and C++.
CO-2	Categorize OOPS such as encapsulation, abstraction,polymorphism.
CO-3	Applying encapsulation concepts in developing the programswith classes andobjects.
CO-4	Identify different types of inheritance and apply them forreusability of code.
CO-5	Construct the packages by arranging the classes with visibilitycontrol.
CO-6	Develop program using different methods of thread creationand exception handling.
CO-7	Create Internet program using applets.

CO-8	Evaluate java collection with other implementation methods ofdata structure.
CO-9	Propose the use of certain technologies by implementing themin the Java programming language to solve the given problem.

S.No	Instructional Technique	Assessment Methods (AM)
1	Chalk & Talk	**Assignments**
2	ICT tools	**Quiz**
3	Group discussions	**Group Discussions**
4	Industrial visit	**Oral Tests**
5	Case studies	**Sessional**
6	Small Projects	**Presentations**
7	Workshop	**Seminar**
8	Spoken Tutorials	**University Exams**
9	Flipped Class	
10.	**E-Resources**	

Detailed Lesson Plan

Week	Date	B(Voc) (4th Sem) (BVSD-43)	Instructional technique	Assessment Method
1	01.02.2023	-		
	02.02.2023	JAVA and the Internet	1	1
	03.02.2023	The Java Programming Language and its Characteristics	1	1
	04.02.2023	Java Runtime Environment, Java Compiler	1	1,2,3,4
	05.02.2023	Sunday		
2	06.02.2023	-		
	07.02.2023	-		
	08.02.2023	-		
	09.02.2023	Java Developers Kit, Running Java Applications	2-PPT/Projector	1,2,3,4
	10.02.2023	Java Applets, Java Programming: Elements of Java Data Types	2-PPT/Projector	---
	11.02.2023	Scalar Data Types, First Class Objects, Control Structures.	2-PPT/Projector	1,2,3,4
	12.02.2023	Sunday		
3	13.02.2023	-		
	14.02.2023	-		
	15.02.2023	-		
	16.02.2023	Revision		
	17.02.2023	Classes and Objects: Introduction, Creating Objects and References	1	1,2,3,4,6
	18.02.2023	Holiday		
	19.02.2023	Sunday		
4	20.02.2023	-		
	21.02.2023	-		
	22.02.2023	-		--
	23.02.2023	Defining Classes, Class Inheritance	8,10	1,2,3,4
	24.02.2023	Constructor, Access Mechanism	8,10	1,2
	25.02.2023	Class Test		4
	26.02.2023	Sunday		
5	27.02.2023	-		
	28.02.2023	-		
	01.03.2023	-		
	02.03.2023	Array and String, Creating an Array, One and Two Dimensional Array		1,2,3,4

	03.03.2023	String and String Buffer Classes, Wrapper Classes.	2-(PPT/Projector)	1,2,3,4
	04.03.2023	Inheritance: Member Access, Super Class	6	5
	05.03.2023	Sunday		
6	06.03.2023 07.03.2023 08.03.2023 09.03.2023 10.03.2023 11.03.2023	Holi Holidays	--	
	12.03.2023	Sunday		
7	13.03.2023	-		
	14.03.2023	-		
	15.03.2023	-		
	16.03.2023	Assignment-1	6	1
	17.03.2023	Creating Multi Level Hierarchy, Method Overloading and Overriding, Abstract Class	2-(PPT/Projector)	1,2,3,4
	18.03.2023	Method Using Final to Prevent Overriding and Overloading, The Object Class Packages and Interfaces	8,10	1,2,3,4
	19.03.2023	Sunday		
8	20.03.2023	-		
	21.03.2023	-		
	22.03.2023	-		
	23.03.2023	Holiday		
	24.03.2023	Defining Packages, Access Protection, Importing Packages, Defining Interfaces	2-(PPT/Projector)	1,2,3,4
	25.03.2023	Exception Handling: Exception Types, Uncaught Exceptions	6	--
9	26.03.2023	Sunday		
	27.03.2023	-		
	28.03.2023	-		
	29.03.2023	Sessional		5
	30.03.2023	Holiday		
	31.03.2023	Multiple catch Clauses, Nested try Statements	2-PPT/Projector	1,2,3,4
	01.04.2023	throw, throws Finally	2-PPT/Projector	1,2,3,4
	02.04.2023	Sunday		
10	03.04.2023	-		
	04.04.2023	Holiday		

	05.04.2023	-		
	06.04.2023	Java built-in Exceptions, Creating your own Exception Subclasses.	2-PPT/Projector	1,2,3,4
	07.04.2023	Multithreaded Programming: Creating threads	1	1,2,3,4
	08.04.2023	run() Method, new thread	2-(PPT/Projector)	1,2,3,4,6
11	09.04.2023	Sunday		
	10.04.2023	-		
	11.04.2023	-	---	
	12.04.2023	-		
	13.04.2023	thread Class, Stopping and Blocking threads	8,10,2	1,2
	14.04.2023	Holiday		
	15.04.2023	Assignment-2		1
	16.04.2023	Sunday		
12	17.04.2023	-		
	18.04.2023	-		
	19.04.2023	-		
	20.04.2023	Life Cycle of thread - New Born, Runnable	1	1,2
	21.04.2023	Running, Blocked, Dead, Waiting	2-(PPT/Projector)	1,2,3,4
	22.04.2023	Holiday		
	23.04.2023	Sunday		
13	24.04.2023	-		
	25.04.2023	-		
	26.04.2023	-		
	27.04.2023	Sleeping, Suspended, Blocked, using thread Methods	1	1,2,3,4
	28.04.2023	thread Exceptions, thread Priority	2-(PPT/Projector)	1,2,3,4
	29.04.2023	Synchronization, Implementing the Runnable Interface.	2-(PPT/Projector)	1,2,3,4
	30.04.2023	Sunday		

	Teacher Incharge	Head of the Department
Name	Harjinder Kaur	Dr. Girdhar Gopal
Sign with Date		