



- Constituent College of JSS Science and Technology University
- Approved by A.I.C.T.E
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### LESSON PLAN WITH PLAN OF ACTION

**STAFF NAME:** KSM + DN + AKM      **SEMESTER:** III      **SECTION:** A, B, C, D and E  
**SUBJECT CODE:** 20CS320      **SUBJECT NAME:** Object-Oriented Programming using JAVA  
**DEPARTMENT:** C S & Engg.      **No. of SCHEDULED CLASSES:** 39

#### OBJECT-ORIENTED PROGRAMMING USING JAVA

Session	SESSION-WISE LESSON PLAN
	Beginning of Odd Semester-17 <sup>th</sup> October 2022
1.	<b>UNIT - 1: INTRODUCTION TO OBJECT-ORIENTED PROGRAMMING AND JAVA</b> Introduction, Procedure-Oriented Programming System, Object-Oriented Paradigm, Basic concepts of Object-Oriented Programming
2.	Objects and Classes, Data Abstraction and Encapsulation, Inheritance, Dynamic Binding, Polymorphism, Message Communication
3.	Benefits of OOP, Applications of OOP, How Java differs from C and C++
4.	<b>The History and Evolution of Java:</b> Java's Magic: The byte code, The Java Buzzwords: Simple, Secure, Portable, Object-oriented, Robust, Multithreaded, Architecture-neutral, Interpreted, High performance, Distributed, Dynamic; Java Environment - Java Development Kit (JDK)
5.	<b>An Overview of Java:</b> Object-Oriented Programming: Abstraction, The three OOP Principles:
6.	Encapsulation, Polymorphism, Inheritance; Simple Java Programs
7.	Data Types, Variables and Arrays
8.	Operators; Control Statements
9.	<b>UNIT - 2: JAVA CLASSES AND STRING HANDLING</b> Introducing Classes: Class Fundamentals Declaring objects, Assigning Object Reference Variables
10.	Introducing Methods, Constructors
11.	The 'this' keyword, Garbage collection, A Stack Class.
12.	<b>A Closer Look at Methods and Classes:</b> Overloading Methods, Using Object as Parameters and Return Value
13.	Access Control, Static Members, 'final'
14.	Nested and Inner Classes, String Class, Command-Line Arguments, Varargs
15.	<b>String Handling:</b> The String Constructors, Extraction, String Comparison, Searching Strings, Modifying Strings, Additional String Methods, String Length, Special String Operations, Character
16.	StringBuffer and StringBuilder Classes, Basics of I/O Operations – keyboard input using BufferedReader & Scanner classes.

17.	<b>UNIT - 3: CLASSES AND REUSABLE PROPERTIES</b> Inheritance: Inheritance Basics
18.	Using super, Creating a Multilevel hierarchy, When Constructors are Executed
19.	Method Overriding, Dynamic Method Dispatch
20.	Using Abstract Classes, Using 'final' with Inheritance, The Object Class
21.	<b>Packages and Interfaces:</b> Packages, Member Access, Importing Packages
22.	Interfaces, Default Interface Methods, Using 'static' Methods in an Interface
23.	Private Interface Methods
24.	Final Thoughts on Packages and Interfaces.
25.	<b>UNIT - 4: EXCEPTION HANDLING &amp; MULTITHREADED PROGRAMMING</b> Exception Handling: Exception-Handling Fundamentals, Exception Types
26.	Uncaught Exceptions, Using 'try' and 'catch', Multiple 'catch' clauses
27.	Nested 'try' Statements, Java's Built-in Exceptions
28.	Creating Your Own Exceptions Subclasses. <b>Multithreaded Programming:</b> The Java Thread Model, The Main Thread
29.	Creating a Thread, Creating Multiple Threads
30.	Using IsAlive() and join(), Thread Priorities
31.	Inter-thread Communication
32.	Suspending, Resuming and Stopping Threads, Obtaining a Thread's State
33.	<b>UNIT - 5: APPLLET PROGRAMMING</b> Introduction, How Applets differ from Applications
34.	Preparing to Write Applets, Building Applet Code
35.	Applet Life Cycle, Creating an Executable Applet
36.	APPLET tag, Adding Applet to HTML file
37.	Running the Applet
38.	Passing parameters to Applets
39.	Aligning the Display; Getting Input from the User

Signature of Teacher

Signature of HoD/Chairperson

### PLAN OF ACTION

**Continuous Internal Evaluation process will be conducted for 50 marks**

3 Tests and 2 Events will be conducted

TEST 1	EVENT 1	TEST 2	EVENT 2	TEST 3	Total
20 marks	Practical/Coding Test - 1 on Unit I & II (20 marks)	20 marks	Practical/Coding Test - 2 on Unit III & IV (20 marks)	20 marks	50 marks

**Teaching Methodology:** Black board, Multimedia projector/Digital smart board