**Summary of Lesson Plan**

Name of College: GOVT. PG NEHRU COLLEGE, JHAJJAR

ACADEMIC SESSION: 2023-2024 For the month of January 2024– May 2024

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| S.N. | Name of Assistant/ Associate Professor | SUBJECT/  CLASS/ SEMESTER | TOPIC/  Chapters to be covered |
| 1 | **Dr. Anju Bala**  ASSISTANT PROFESSOR  COMPUTER SCIENCE | **MSc4th SEM.**  **Java programming** | **January:**  Java History, Java features Java and Internet, Java and World Wide Web, Java Program Structure, Java Tokens, Java Virtual Machine, Data Types, Operators and Expressions, Decision Making and Branching, looping Classes and Methods**.** Inheritance: Using Existing Classes, Class Inheritance, Choosing Base Class, Access Attributes, types of Inheritance, Abstract Classes, Using Final Modifier  **February:**  Types of polymorphism. Packages & Interfaces: Understanding Packages, Defining a Package, Packaging up Your Classes, Adding Classes from a Package to Your Program, Understanding CLASSPATH, Access Protection in Packages, Concept of Interface. Types of Exceptions, Dealing with Exceptions, Exception Objects.  Assignment 1.  Class Test.  **March:**  Understanding Threads, The Main Thread, Creating a Thread, Creating Multiple Threads, Thread Priorities, Synchronization, Deadlocks Inter-thread communication Input/Output in Java: I/O Basic, Byte and Character Structures, I/O Classes, Reading Console. Creating Applets in Java: Applet Basics, Applet Architecture, Applet Life Cycle.  Class Test  **April:**  Simple Applet Display Methods, Requesting Repainting, Using The Status Window, The HTML APPLET Tag Passing Parameters to Applets. Working with AWT Controls, AWT Classes, Window Fundamentals, Working with Frame, Creating a Frame Window in an Applet, Displaying Information Within a Window. Working with Graph: Working with Graphics, Working with Color, Setting the Paint Mode, Working with Fonts, Exploring Text and Graphics, Layout Managers and Menus.  Assignment 2  Class Test and Discussion. |
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| 2 | **Dr. Anju Bala**  ASSISTANT PROFESSOR COMP-SCIENCE | **MSC 2nd SEM.**  **Object oriented programming using C++** | **January:**  Object Oriented Programming Concepts: Procedural Language and Object Oriented approach. Characteristics of OOP: Objects, classes, Encapsulation, Data Abstraction, Inheritance, Polymorphism, Dynamic Binding, Message Passing. Structure of C++ program: Data-types, Variables, Static Variables, Operators in C++, Arrays, Strings, Structure, Functions, Recursion, Control Statements.  **February:**  Classes: Class, object, Memory Allocation for Objects, memory layout of objects, private, public, protected member functions, static members. Constructors: Features, types, dynamic constructor, Parameterized constructors; destructors. Memory management: Dynamic Memory allocation: new, delete, Object Creation at Run Time; This Pointer.  Assignment 1, Class Test.  **March:**  Inheritance: Derived Class and Base Class, Different types of Inheritance, Overriding member function, Public and Private Inheritance, Ambiguity in Multiple inheritance, Virtual Inheritance, Abstract Class. Polymorphism: Definition, operator overloading, Overloading Unary and Binary Operators, Function overloading, Virtual function, Friend function, Static function.  Class Test.  **April:**  Exception handling: Throwing, Catching, Re-throwing an exception, specifying exceptions; processing unexpected exceptions; Exceptions when handling exceptions, resource capture and release. Templates: Introduction; Class templates; Function templates; Overloading of template function, namespaces. Introduction to STL: Standard Template Library: benefits of STL; containers, adapters, iterators, vector, lists.  Assignment 2  Class Test and Discussion. |