C. V. RAMAN POLYTECHNIC, BHUBANESWAR

LESSON PLAN

Discipline:	Computer Science & Engineering	**Semester:**	3rd
Subject:	Programming with C++	**Name of the Teaching Faculty:**	Pradeep Ranjan Dhal
No. of Days/per week class allotted:	3	**Semester From date:**	14/07/2025
No. of Weeks:	15	**To Date:**	15/11/2025

Week	Class Day	Topics
1st	1st	**Unit-1 :** Introduction to object oriented programming
	2nd	Getting started with C++ syntax
	3rd	Data type, variables, user defined types, Namespaces, Operators
2nd	1st	Flow Control
	2nd	Looping Statement
	3rd	Strings, Pointers
3rd	1st	Arrays
	2nd	Functions, default values in functions
	3rd	Recursion of function
4th	1st	Structures, Unions
	2nd	Polymorphism, Encapsulation
	3rd	Question and answer session
5th	1st	**Unit – 2 : Abstraction**: Class and object, Private class, Public class
	2nd	Data Member and Member functions, static members
	3rd	Inline function
6th	1st	Friend Functions
	2nd	Constructors, Destructors
	3rd	**Inheritance**: Class hierarchy, derived classes
7th	1st	Single Inheritance, Multiple, Multilevel, Hybrid Inheritance
	2nd	Role of virtual base class
	3rd	Constructor and Destructor execution
8th	1st	Base initialization using derived class constructors
	2nd	Question and answer session
	3rd	**Unit – 3 :** Polymorphism : Static polymorphism - Function Overloading
9th	1st	Ambiguity in function overloading
	2nd	Dynamic polymorphism: Base class pointer
	3rd	object slicing

10th	1st	Binding, Static binding,
	2nd	Dynamic binding, Late binding
	3rd	Method overriding with virtual functions
11th	1st	Pure virtual functions, abstract classes
	2nd	Question and answer session
	3rd	**Unit – 4 :** Operator Overloading – Introduction and Application of "this" pointer
12th	1st	Introduction to Operator Overloading - Syntax and basic rules of operator overloading with example
	2nd	Member vs Non-member Operator Functions
	3rd	Overloading Binary Operators (Member Functions)
13th	1st	Overloading Binary Operators (Non-member Functions)
	2nd	Overloading Unary Operators
	3rd	Overloading I/O Operators
14th	1st	Question and answer session
	2nd	Practice problems for operator overloading and `this` pointer
	3rd	**Unit – 5 :** Basics of Exception Handling - `try`, `throw`, and `catch`
15th	1st	Advanced Exception Concepts - exceptions and derived classes
	2nd	Function Exception Specifications & Unexpected Exceptions -
	3rd	Question and answer session

Pradeep Ranjan Dhal

Signature of Faculty

Sambhu Prasad Panda

Signature of HoD

Prof. R. K. Prusty

Principal