



Indraprastha College for Women

University of Delhi

Work Plan for ODD SEMESTER – 2026

Course Name:	BA (H) / B.Sc(H) Generic Elective COURSE – 1
Paper Title:	Programming using C++
Unique Paper Code:	GE1b
Semester:	I
Faculty(s):	Prof Archana Singhal
Year:	2026

Work Plan			
Unit No.	Learning Objective	Lecture No.	Topics to be Covered
IV	Pointers and References;	1 ,2	Static and dynamic memory allocation,
		3 ,4	Pointer and Reference Variables
		5-9	Implementing Runtime polymorphism using pointers and references
V	Exception and File Handling: Using try, catch, throw, throws and finally; Nested try, creating user defined exceptions, File I/O Basics, File Operations	9-11	Using try, catch, throw, throws and finally
		12-13	Nested try, creating user defined exceptions
		14-15	File I/O Basics, File Operations

I	Unit-1 (3 hours) Introduction to C++: Overview of Procedural and Object-Oriented Programming, Using main() function, Header Files, Compiling and Executing Simple Programs in C++.
II	Unit-2 (12 hours) Programming Fundamentals: Data types, Variables, Operators, Expressions, Arrays, Keywords, Decision-making constructs, Iteration, Type Casting, Input-output statements, Functions, Command Line Arguments/Parameters
III	Unit-3 (15 hours) Object Oriented Programming: Concepts of Abstraction, Encapsulation. Creating Classes and objects, Modifiers and Access Control, Constructors, Destructors, Implementation of Inheritance and Polymorphism, Template functions and classes
IV	Unit-4 (9 hours) Pointers and References: Static and dynamic memory allocation, Pointer and Reference Variables, Implementing Runtime polymorphism using pointers and references
V	Unit-5 (6 hours) Exception and File Handling: Using try, catch, throw, throws and finally; Nested try, creating user defined exceptions, File I/O Basics, File Operations
S. No.	Name of Authors/Books/Publishers
1.	Stephen Prata, C++ Primer Plus, 6th Edition, Pearson India, 2015.
2.	E Balaguruswamy, Object Oriented Programming with C++, 8th edition, McGraw-Hill Education, 2020. 3. D.S. Malik, C++ Programming: From Problem Analysis to Program Design, 6th edition, Cengage Learning, 2013.
3.	Schildt, H. C++: The Complete Reference, 4th edition, McGraw Hill, 2003

4.	Forouzan, A. B., Gilberg, R. F. Computer Science: A Structured Approach using C++, 2nd edition, Cengage Learning, 2010
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	Paper Components		
Credits	Lecture (L)	Tutorial (T)	Practical (P)

4	3	0	1
Assessment Scheme			
S.No.	Component	Marking Scheme	Total Marks
1	Internal Assessment • Assignment/Quiz/Project/Presentation • Class Test • Attendance		30
		12	
		12	
		6	
2.	Continuous Assessment (Tutorial) • Activity 1 • Activity 2 • Attendance		
3.	Practical • Continuous Assessment • End Term Written/Practical Exam • Viva		40
		10	
		20	
		10	
4.	End Semester Examination		90