Object Oriented Programming through C++ Lab

Course Code	20CS3351	**Year**	II	**Semester**	I
Course Category	PCC Lab	**Branch**	CSE	**Course Type**	Practical
Credits	1.5	**L-T-P**	0-0-3	**Prerequisites**	Programming for Problem Solving
Continuous Internal Evaluation:	15	**Semester end evaluation**	35	**Total Marks**	50

Course Outcomes		
Upon successful completion of the course, the student will be able to		
CO1	Apply Object oriented principles/ C++ constructs for solving problems.	**L3**
CO2	Implement programs as an individual on different IDEs/ online platforms.	**L3**
CO3	Develop an effective report based on various programs implemented.	**L3**
CO4	Apply technical knowledge for a given problem and express with an effective oral communication.	**L3**
CO5	Analyze outputs using given constraints/test cases.	**L4**

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3:Substantial, 2: Moderate, 1:Slight)

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1													3	
CO2					2				1					
CO3										2				
CO4	2									2				
CO5			3											

Syllabus		
Expt No.	**Contents**	**Mapped CO**
1	Implement programs on predefined streams.	**CO1,CO2,CO3,CO4,CO5**
2	Implement programs using functions (passing arguments, overloading).	**CO1,CO2,CO3,CO4,CO5**
3	Implement programs using class/object concepts. (Access specifiers, class members, static members)	**CO1,CO2,CO3,CO4,CO5**
4	Implement programs using friend functions.	**CO1,CO2,CO3,CO4,CO5**
5	Implement programs using constructor(s) and destructor.	**CO1,CO2,CO3,CO4,CO5**
6	Implement programs using operator overloading.	**CO1,CO2,CO3,CO4,CO5**
7	Implement various types of inheritance techniques.	**CO1,CO2,CO3,CO4,CO5**
8	Implement programs using virtual functions to achieve polymorphism.	**CO1,CO2,CO3,CO4,CO5**
9	Implement programs using FileStreams	**CO1,CO2,CO3,CO4,CO5**
10	Implement programs on exception handling concepts.	**CO1,CO2,CO3,CO4,CO5**
11	Implement programs on generic programming concept with templates.	**CO1,CO2,CO3,CO4,CO5**
12	Implement containers in C++ (Sequence Containers and Associative Containers).	**CO1,CO2,CO3,CO4,CO5**

Learning Resources
Text Books
1. Object-Oriented Programming in C++, Robert Lafore, Fourt Edition, 2002, SAMS. 2. Object-Oriented Programming with C++, E Balagurusamy, Eigth Edition, 2020, Mc Graw Hill.
References
1. The C++ Programming Language, Bjarne Stroustup, Fourth Edition, 2013, Addison-Wesley. 2. Object-Oriented Programming Using C++ Paperback, Joyce Farrell, Fourth Edition, 2013, Cengage.
e-Resources and other Digital Material
1. https://www.learncpp.com/ 2. https://onlinecourses.nptel.ac.in/noc21_cs02/preview 3. https://www.educative.io/courses/learn-object-oriented-programming-in-cpp 4. https://www.youtube.com/watch?v=wN0x9eZLix4 (Learn Object Oriented Programming in C++, Beau Carnes, February 2021)