

Prasad.V.Potluri Siddhartha Institute Of Technology, Kanuru, Vijayawada

Object Oriented Programming Using C++ Lab -- 19IT3351

Course Code	19IT3351	Year	II	Semester	I
Course Category	PC	Branch	IT	Course Type	Lab
Credits	1.5	L-T-P	0-0-3	Prerequisites	C Language
Continuous Internal Evaluation :	25	Semester End Evaluation:	50	Total Marks:	75

Course Outcomes		
Upon Successful completion of course, the student will be able to		Blooms Taxonomy Level
CO1	Illustrate the programs using basic concepts in C++.	L2
CO2	Construct programs using the concepts of class, inheritance and polymorphism.	L3
CO3	Implement programs with streams and pointers	L3
CO4	Develop applications using template programming.	L3
CO5	Develop programs using strings and exception handling mechanism	L3

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (H:High, M: Medium, L:Low)														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	2				2	1	1			2	2
CO2	2	2	2	2				2	1	1			2	2
CO3	2	2	2	2				2	1	1			2	2
CO4	2	2	2	2				2	1	1			2	2
CO5	2	2	2	2				2	1	1			2	2

Syllabus		
Expt No	Contents	Mapped CO
I	a) Write a C++ program to convert decimal to binary b) A Fibonacci sequence is defined as follows: the first and second terms in the sequence are 0 and 1. Subsequent terms are found by adding the preceding two terms in the sequence. Write a C++ program to generate the first n terms of the sequence. c) Write a C++ program to generate all the prime numbers between 1 and n, where n is a value supplied by the user. d) Write a program to find transpose of 2-D matrix by allocating memory dynamically to the matrix. Initialize and display contents of the matrix and deallocate memory.	CO1
II	Implement the C++ programs by using the concepts of a) Function overloading. b) Static data members c) Static member functions	CO1
III	Implement the C++ programs by using the concepts of a) Classes and Objects	CO2

	b) Arrays of Objects c)Constructors d) Constructor overloading	
IV	Implement the C++ programs by using the concepts of a) Binary operator overloading b)Unary operator overloading c) Friend function d) Friend class	CO2
V	Implement the C++ programs by using the concepts of a)Simple inheritatnce b)Multilevel inheritance c)Multiple inheritance d)Hybrid inheritance through virtual base class	CO2
VI	Implement the C++ programs by using the concepts of a)Virtual function b)Run Time polymorphism c)Abstract class	CO2
VII	a) Write a C++ program to display elements of an array using pointer and also display addresses of elements. b) Write a C++ program to pass elements of an array to a function by using call by value. c) Write a C++ program to pass elements of an array to a function by using call by reference.	CO3
VIII	a) Write a C++ program to display the contents of text file b) Write a C++ program by accepting two file names and produces a new file that contains the contents of two accepted files c) Write a C++ program that produces the sum of all the numbers in a file of white space separated integers.	CO3
IX	Write a C++ program to illustrate a) Class templates b) Class templates with multiple parameters c) Function templates	CO4
X	a) Write a C++ program to declare string objects and Perform assignment and concatenation operations with the string objects. b) Write a C++ program to compare two strings using standard function compare(). c) Write a C++ program to remove specified characters from the string. d) Write a program to display the capacity of the string object. Use member function capacity().	CO5
XI	a. Write a C++ program to illustrate i. Division by zero ii. Array index out of bounds exception b. Write a C++ program to illustrate the concept of multiple catch block c. Write a C++ program to illustrate rethrowing an exception.	CO5

Learning Recourses
Text Books
Programming in C++, Second Edition, by Ashok N Kamthane, Pearson Education.
References
1. C++ How To Program, Dietel and Dietel, Prentice Hal . 2. C++ The Complete Reference, 5th Edition, by Herbert Schildt, TMH.
E-Recourses and other Digital Material
http://www.cplusplus.com , https://www.w3schools.com/cpp/

