CERTIFICATE COURSE IN C++ & OBJECT ORIENTED PROGRAMMING SYSTEM

(6 Months)

STATE BOARD OF TECHNICAL EDUCATION AND TRAINING

SANKETHIKA VIDYA BHAVAN, MASAB TANK, TELANGANA: HYDERABAD

C++ & Object Oriented Programming System

SUB CODE	NAME OF THE SUJECT	HOURS/WEEK		TOTAL PERIODS PER ANNUM	SCHEME OF EXAMINATION			
	Theory	Theory	Practicals		Duration Hours	Sessional Marks	End Exam Marks	Total Marks
C++-101	C++ & Object Oriented Programming System - PAPER I (Theory)	03	--	50	02	--	100	100
C++-102	C++ & Object Oriented Programming System PAPER II (PRACTICAL)		06	75	02	40	60	100
	TOTAL	03	06	125	04	40	160	200

C++-101- PAPER-I- C++ & Object Oriented Programming System:

Unit-1 Introduction to OOP: Procedure oriented programming, object oriented programming, basic concepts of OOP, benefits and applications of OOP, simple C++ program, namespace scope, structure of C++ Program, creating, compiling and linking a file. Tokens : Keywords, identifiers, constants, basic data types, user defined data types, storage classes, derived data types, dynamic initialization of variables, reference variables

Unit-2 Control Structures: operators in C++, scope resolution operator, member dereferencing operators, memory management operators. if, if..else, elseif ladder, nested if, switch, for, while, do..while, break, continue, exit, goto, Classes and Objects: Specifying a class, defining member functions, C++ program with class, private member functions, arrays within class, memory allocation for objects, static data members, static member functions, arrays of objects, returning objects.

Unit-3 Functions, Constructors & Destructors: Functions in C++: Main function, function prototyping, call by reference, return by reference, inline functions, default arguments. Function overloading, friend function, a function friendly to two classes, objects as function arguments. Constructors & Destructors: Constructors, parameterized constructors, multiple constructors in a class, constructors with default arguments, copy constructors, dynamic constructors, destructors.

Unit-4 Inheritance: Introduction to inheritance, single inheritance, multi-level Inheritance, multiple Inheritance, hierarchical inheritance, hybrid inheritance. Operator overloading: Rules for overloading operators, overloading unary operators, overloading binary operators.

Unit-5 Pointers: Introduction to pointers, declaring and initializing pointers, arithmetic operations on pointers, pointers with arrays, arrays of pointers, pointers to objects, 'this' pointer.

Unit-6 Polymorphism and Exception Handling: Compile-time polymorphism, runtime polymorphism, virtual functions. Templates: Introduction, function templates, class templates. Exception Handling: Introduction, exception handling mechanism, throwing mechanism, catching mechanism.

C++-102 - PAPER-II- PRACTICAL - C++ & Object Oriented Programming System:

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