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3 BCA 1**OBJECT ORIENTED PROGRAMMING WITH C++****UNIT-I**

Overview of C++ : Object oriented programming, Introducing C++ classes, Concepts of object oriented programming.

Classes & Objects : Classes, Structure & classes, Union & Classes, Friend function, Friend classes, Inline function, Scope resolution operator, Static class members: Static data member, Static member function, Passing objects to function, Returning objects, Object assignment.

UNIT-II

Array, Pointers references & The Dynamic Allocation operators : Array of objects, Pointers to object, Type checking C++ pointers, The This pointer, Pointer to derived types, Pointer to class members, References: Reference parameter, Passing references to objects, Returning reference, Independent reference, C++ 's dynamic allocation operators, Initializing allocated memory, Allocating Array, Allocating objects.

Constructor & Destructor : Introduction, Constructor, Parameterized constructor, Multiple constructor in a class, Constructor with default argument, Copy constructor, Default Argument, Constructing two-dimensional Array, Destructor.

UNIT-III

Function & . operator overloading : Function overloading, Overloading constructor function finding the address of an overloaded function, Operator Overloading: Creating a member operator function, Creating Prefix & Postfix forms of the increment & decrement operation, Overloading the shorthand operation (i.e. +=, -= etc), Operator overloading restrictions, Operator overloading using friend function, Overloading New & Delete, Overloading some special operators, Overloading [], (), -, comma operator, Overloading << .

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UNIT-IV

Inheritance : Base class Access control, Inheritance & protected members, Protected base class inheritance, Inheriting multiple base classes, Constructors, destructors & Inheritance, When constructor & destructor function are executed, Passing parameters to base class constructors, Granting access, Virtual base classes .

Virtual functions & Polymorphism : Virtual function, Pure Virtual functions, Early Vs. late binding

UNIT-V

The C++ I/O system basics : C++ streams, The basic stream classes: C++ predefined streams, Formatted I/O: Formatting using the ios members, Setting the format flags, Clearing format flags, An overloaded form of self(), Examining the formatted flags, Setting all flags, Using width() precision() and fill(), Using manipulators to format I/O, Creating your own manipulators.

TEXT & REFERENCE BOOKS :

- *Herbert Schildt, "C++ The complete reference " . TMH Publication*
- *R. Subburaj, "Object Oriented Programming with C++ " , Vikas Publishing House, New Delhi.*
- *E. Balguruswamy, "C++ " , TMH Publication*
- *M Kumar "Programming in C++", TMH Publications*
- *R. Lafore, "Object Oriented Programming C++ "*