

II B.Com CA – III Semester
3C: Programming with C & C++

Unit-I: Introduction to programming language paradigms – Problem solving methods- Flowcharts and Algorithms, Introduction to C-Structure of C, Compilation and Execution, C-character set, identifiers & Keywords, variables and constants, data types, expressions, operators in C, Input and output statements in C.

Unit-II: Control structures – Decision making and branching, looping structures, switch-case, break and continue, goto statement, functions – advantages, storage classes, creating user-defined functions, recursion, Parameter passing, arrays- types of arrays, arrays and functions.- Introduction to pointers-pointer declaration, pointer operators, Dynamic memory allocation.

Unit-III: Introduction to object oriented programming – Difference between function oriented programming and object oriented programming, Features of OOP, Applications of OOP, structure of C++ program with simple C++ program, basics of console Input and Output, C++ data types, Operators in C++, Control Structures, Functions-inline functions, default arguments, function overloading.

Unit-IV: Classes and Objects: Specifying a class, defining member functions, Access control, constructors and destructors, Friend functions – Inheritance – Class hierarchy, derived classes, types of inheritance, Polymorphism-static binding, dynamic binding, method overloading with virtual functions, pure virtual functions, abstract classes.

Unit-V: Operator overloading-this pointer, applications of this pointer, operator function, operator overloading. **Exception handling**- Try, throw and catch, Dynamic Memory management, new and delete operators, object copyiing, copy constructor,

Text books:

1. Programming in C by E.Balaguruswamy, McGrawhill 6th Edition.
2. Object oriented Programming with C++ by E.Balaguruswamy McGrawHill Education.
3. ANSI and Turbo C++ by Ashoke N. Kamthane, Pearson Education.