

Standard template library (STL): component of STL, containers, iterators, algorithms, application of container classes.

Recommended books :

Object Oriented Programming with C++ : E. Balagurusamy

BCA 302: Visual Programming

UNIT-I

WINDOWS PROGRAMMING : Windows environment – a simple windows program – windows and messages – creating the window – displaying the window – message loop – the window procedure – message processing – text output – painting and repainting – introduction to GDI – device context – basic drawing – child window controls

UNIT-II

VISUAL C++ PROGRAMMING – INTRODUCTION
Application Framework – MFC library – Visual C++ Components – Event Handling – Mapping modes – colors – fonts – modal and modeless dialog – windows common controls – bitmaps

UNIT-III

THE DOCUMENT AND VIEW ARCHITECTURE
Menus – Keyboard accelerators – rich edit control – toolbars – status bars – reusable frame window base class – separating document from its view – reading and writing SDI and MDI documents – splitter window and multiple views – creating DLLs – dialog based applications

UNIT-IV

ACTIVEX AND OBJECT LINKING AND EMBED-

DING (OLE) : ActiveX controls Vs. Ordinary Windows Controls – Installing ActiveX controls – Calendar Control – ActiveX control container programming – create ActiveX control at runtime – Component Object Model (COM) – containment and aggregation Vs. inheritance – OLE drag and drop – OLE embedded component and containers – sample applications

UNIT-V

ADVANCED CONCEPTS : Database Management with Microsoft ODBC – Structured Query Language – MFC ODBC classes – sample database applications – filter and sort strings – DAO concepts – displaying database records in scrolling view – Threading – VC++ Networking issues – Winsock – WinInet – building a web client – Internet Information Server – ISAPI server extension – chat application – playing and multimedia (sound and video) files

TEXT BOOKS :

1. Charles Petzold, “Windows Programming”, Microsoft press, 1996 (Unit I)
2. David J.Kruglinski, George Shepherd and Scot Wingo, “Programming Visual C++”, Microsoft press, 1999 (Unit II – V)

REFERENCE:

BCA 303: Information Security & Cryptography

UNIT-I

Overview of cryptography : Need of security, cryptographic goals, security approaches, basic terminology and concepts, symmetric key encryption - block cipher and stream cipher, substitution cipher and transposition ciphers, key space, public key cryptography, symmetric key v/s public key cryptography. Protocols and mechanisms, key management through symmetric key and public key techniques, attacks on encryption schemes, attacks on protocols, models for evaluating security, perspective for computational security.

UNIT-II

Pseudorandom bits and sequences : Random bit generation – hardware based generator and software based generator, tests for measuring randomness – frequency, serial, poker, runs and autocorrelation test. Blum-Blum-Shub pseudorandom bit generator.

Stream ciphers: Classification, one time pad, properties of synchronous and self-synchronizing stream cipher, linear and nonlinear feedback shift registers, stream ciphers based on LFSRs and its property, SEAL.

