Compiler Construction:

<u>UNIT - I :</u> Compilers and translators, need, the structure of a compiler, Lexical Analysis, Syntax analysis, Intermediate code Generation, Optimization, Code Generation, Book keeping, Error Handling

<u>UNIT - II :</u> High Level programming languages, Definitions of programming languages, The lexical and syntactic structure of a language, Data elements, structures, Operators, Assignment Statements, Data Environments, Parameter transmission, Storage management.

<u>UNIT - III :</u> The role of the lexical analyzer, Approach to the design of lexical analyzer, Implementation of lexical analyzer, Context free grammars, Derivations and parse trees, Ambiguous grammar.

<u>UNIT - IV :</u> Parsers, Shift-reduce parsing, Operator precedence parsing, Top-down parsing, predictive parsers, Symbol Table, Code Optimization: The principal source optimization, Loop optimization, The DAG representation of basic blocks, Code Generation: A machine model, a simple code generator, Register Allocation and assignment.

Computer Graphics:

UNIT - I: Introduction and Primitives

Introduction: Application areas of Computer Graphics, overview of graphics systems, video-display devices, raster-scan systems, random scan systems, graphics monitors and work stations and input devices

<u>UNIT - II :</u> Output primitives : Points and lines, line drawing algorithms, mid-point circle and ellipse algorithms. Filled area primitives: Scan line polygon fill algorithm, boundary-fill and flood-fill algorithms.

UNIT - III : 2D Transformations

2-D geometrical transforms: Translation, scaling, rotation, reflection and shear transformations, matrix representations and homogeneous coordinates, composite transforms, transformations between coordinate systems.

<u>UNIT - IV :</u> 2-D viewing: The viewing pipeline, viewing coordinate reference frame, window to view-port coordinate transformation, viewing functions, Cohen-Sutherland and Cyrus-beck line clipping algorithms, Sutherland –Hodgeman polygon clipping algorithm.

Data Communication Network:

<u>UNIT - I:</u> Data Communication <u>:</u>Data Transmission- Concept and Terminology, Analog & Digital Data Transmission, Transmission Impairment, Transmission Media. Data Encoding- Digital Data, Analog Data, Digital Signal, Analog Signal.

<u>UNIT - II :</u> Digital Data Communication: Asynchronous and Synchronous transmission, Error detection technique, Interfacing.

Data Link Control: Line configurations, Flow control, Error control, Data link control protocols. Multiplexing-Frequency division multiplexing, Synchronous Time Division Multiplexing.

<u>UNIT - III :</u> Circuit Switching: Communication Networks, Circuit switching, Single Node network, Digital switching concept, Control Signaling.

<u>UNIT - IV:</u> Packet Switching: Packet switching principles, Virtual circuits and diagrams, Routing, Traffic control, X.25. LAN & MAN- LAN, MAN technology, Bus, Tree, Star and Hybrid Topologies, Optical fiber Bus, Ring Topology, Medium Access Control Protocols, LAN/MAN standards.

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PHP:

<u>UNIT - I :</u> Introduction to PHP: What Does PHP Do, A Brief History of PHP, Installing PHP, A Walk Through PHP Language Basics: Lexical Structure, Data Types, Variables, Expressions and Operators, Flow-Control Statements, Including Code, Embedding PHP in Web Pages, Installing and Configuring PHP on Windows and Linux Platforms

UNIT - II: Functions: Calling a Function, Defining a Function, Variable Scope, Function Parameters,

Return Values, Variable Functions, Anonymous Functions, Strings: Quoting String Constants, Printing Strings, Accessing Individual Characters, Cleaning Strings, Encoding and Escaping, Comparing Strings, Manipulating and Searching Strings, Regular Expressions, POSIX-Style Regular Expressions, Perl-Compatible Regular Expressions,

<u>UNIT - III:</u> Arrays: Indexed Versus Associative Arrays, Identifying Elements of an Array, Storing Data in Arrays, Multidimensional Arrays, Extracting Multiple Values, Converting Between Arrays and Variables, Traversing Arrays, Sorting, Acting on Entire Arrays, Using Arrays

<u>UNIT - IV:</u> Reading data in web pages: Setting up Web Pages to Communicate with PHP, Handling Text Fields, Text Areas, Check Boxes, Radio Buttons, List Boxes, Password Controls, Hidden Controls, Image Maps, and File Uploads. Handling Buttons: Making Button Data Persist, Using Submit Buttons as HTML Buttons.

SE-2:

<u>UNIT - I:</u> Creating an architectural design: Software architecture, Data design, Architectural styles and patterns, Architectural Design.

<u>UNIT - II:</u> Testing Strategies: A strategic approach to software testing, test strategies for conventional software, Black-Box and White-Box testing, Validation testing, System testing, the art of Debugging.

<u>UNIT - III:</u> Product metrics: Software Quality, Metrics for Analysis Model, Metrics for Design Model, Metrics for source code, Metrics for testing, Metrics for maintenance.

Metrics for Process and Products: Software Measurement, Metrics for software quality.

<u>UNIT - IV:</u> Risk management: Reactive vs. Proactive Risk strategies, software risks, Risk identification, Risk projection, Risk refinement, RMMM, RMMM Plan.

Quality Management : Quality concepts, Software quality assurance, Software Reviews, Formal technical reviews, Statistical Software quality Assurance, Software reliability, The ISO 9000 quality standards.

VB.Net:

<u>UNIT - 1:</u> Introduction to .Net, The .NET framework, The .NET Programming Framework, .NET Language, The Class .NET Library, Vb.NET, Windows Application using VB .NET Class: Creating a New Class, defining and using a New Object, Constructor & Destructor Inheritance: Inheritance Properties and Methods, Inheriting Constructors, Overriding Methods, Creating a Derived Class

<u>UNIT - II :</u> Interface Design & Implement: Abstraction & Interfaces on Object Oriented Software Design, Interface & Inheritance, Realizing the benefits of Interfaces, Implicit Interface, Explicit Interface – Abstract Class of Explicit Interface, Implementing Interfaces – Interface Implementation Semantics, Implementing Closeable, Implementing IComparable, Accessing & using the Implement, Compound Interfaces

<u>UNIT - III :</u> User Interface: Helper Forms, Message Process, Dialog Process, Owned Forms

Menus: Creating a Menu, Functionality to the Menu Items, Enhancing the Menu, Disabling Items on the Windows Form Menus, Creating Context Menu – Step by Step, Add Functionality to the Menu Items

Toolbar: Adding the Toolbar and buttons, Defining an Icon for the Toolbar and Buttons, Defining an ICON for a Toolbar Button, Adding Functionality to the Toolbar

MDI Application: The Basics, Building an MDI Application, Building – In Capabilities of MDI Applications, Accessing Child Forms, Ending an MDI Applications, A Scrollable PictureBox

<u>UNIT - IV : Advanced Interface Patterns, Adapters, Delegates & Events: Adapters & Wrappers, Interfaces Adaptation in Action – COM - .NET interop, The Adapter Pattern in .NET, The Adapter Pattern Event – Model, Delegates – Understanding Delegates, Declaration of the Delegates, Early Bound Delegates Declares, Late Bound Delegates Declares, Sorting Data with Delegates, Multicast Delegates, .NET Framework Event Model – Delegates & Events, Delegates Events verses Adapter Events, Delegates verses Function Pointers Error Handling & Prevention: Types of Errors – Design Time Error, Runtime Error, Logic Error Structured Exception Handling: Exception Structured verses Unstructured exception. Handling, Try.....Catch.....Finally Statement, Exception Class. Debugging: Break Mode, Starting Debugging, Controlling the Flow during Debugging, Debugging Tools</u>