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Module-I :(10 Hours)

Digital Logic Fundamentals: Logic Gates, Introduction to Multiplexer, De-multiplexer, Encoder, Decoder & Flip-Flops.

Introduction to Computer Fundamentals: Basic architecture of computer, Functional units, Operational concepts, Bus structures, Von Neumann Concept. Instruction code, Instruction set, Instruction sequencing, Instruction cycle, Instruction format, Addressing modes, Micro instruction, Data path, Hardwired controlled unit, Micro programmed controlled unit.

Generation of Programming languages, Compiler, Linker, Loader

Module-II :(10 Hours)

C language fundamentals: Character set, Key words, Identifiers, data types, Constants and variables, Statements, Expressions, Operators, Precedence and associativity of operators, Side effects, Type conversion, Managing input and output

Control structures: Decision making, branching and looping.

Arrays: one dimensional, multidimensional array and their applications, Declaration, storage and manipulation of arrays

Strings: String variable, String handling functions, Array of strings

Functions: Designing structured programs, Functions in C, Formal vs. actual arguments, Function category, Function prototype, Parameter passing, Recursive functions.

Storage classes: Auto, Extern, register and static variables

Module-II :(10 Hours)

Pointers: Pointer variable and its importance, pointer arithmetic and scale factor, Compatibility, Dereferencing, L-value and R-value, Pointers and arrays, Pointer and character strings, Pointers and functions, Array of pointers, pointers to pointers, Dynamic memory allocation

Structure and union: declaration and initialization of structures, Structure as function parameters, Structure pointers, Unions.

File Management: Defining and opening a file, Closing a file, Input/output Operations in files, Random Access to files, Error handling

Text Books:

1.William Stalling , " Computer Organization and Architecture "Pearson Education Balagurusamy : "C Programming" Tata McGraw-Hill

Reference Books:

1. J. P. Hayes "Computer Architecture and Organization" McGraw Hill Education India.
2. H. Schildt – "C the complete Reference" McGraw-Hill
3. K.R. Venugopal, S.R. Prasad, " Mastering C, McGraw-Hill Education India