

Course Code	Course Name	Hours per Week			Total	Total
		L	T	P	Hrs.	Credits
EN3ES06	Computer Programming	2	0	2	4	3

Unit-I Problem Solving Methodology

Problem statement, Analysis, Design a solution, Implement/Coding the solution, Test the solution, Design tools (Algorithm, Flow-chart, Pseudo-code)- Develop algorithms for simple problems .

Programming Languages: Types and generation of programming languages- Compiler – Interpreter-Linker –Loader Execution of Program

Unit II Basics of Language

Character set, Identifier, Keywords, Constants, Data Types, Variables and declaration, Operators and Expressions : Operator precedence and associativity, Expression Evaluation (Simple Examples) , Input and output functions , Simple computational problems involving the above constructs.

Control Statements: Selection, Conditional operator, Iteration (for, while, do-while), Branching (switch, break, continue, goto), Nesting of control statements- Problems using control statements.

Unit-III Arrays and Strings

1D and 2D arrays, Searching (Linear and Binary), Sorting (Bubble, Selection), Matrix manipulation programs, Strings and basic operations on strings, Strings functions, Programs on string manipulation

Functions: Definition, Calling Declaration, Parameter Passing (by value and by reference), Recursion, Library functions, Programs based on functions

Unit-IV User defined data types

Structure, Union, Enumerated data type, Programs involving structure and union.

Pointers: Declaration, Initialization, Pointers and arrays, Pointers and structures, Pointers and functions, Command line arguments, Dynamic memory allocation, Operations on pointers, Programs involving the above concepts

Unit-V Files

File concept , File pointer, File handling operations (open, close, read, write etc) on sequential and random access files. Programs on file manipulations using fgetc(), fgets(), fseek.

Text Books:

1. Herbert Schildt, C: The complete Reference, Fourth Edition, Mc-Graw Hill.
2. R. Sethi, Programming Language Concepts and Constructs, Pearson Education
3. V. Rajaraman, Computer Programming in 'C' , PHI.
4. M. Sprankle, Programming and Problem Solving , Pearson Education
5. R.G. Dromey, How to solve it by Computer , Pearson Education.
6. E. Balguruswamy, Programming in ANSI C by, Tata Mc-Graw Hill

References Books

1. Kernighan and Ritchie , The 'C' programming language, PHI
2. Programming With C, Schaum Series.
3. A. N. Kamthane, Programming with ANSI and Turbo C, Pearson Education

List of Practicals

1. Fibonacci series, Generation of Prime, Sum of Series
2. Matrix Addition, Subtraction and Multiplication
3. Sort by Name and Short by Number
4. Bitwise Operations
5. Case Conversion, Encoding and Decoding
6. String Operations
7. Array of Structures
8. Make Patterns
9. Implementation of Structures using Pointers
10. Pointers to Functions
11. Pointers to Pointers
12. Stack using Macros, header - size.h
13. Case Checking using Macros, Header - checck.h
14. File Handling