

B.Sc. Part – I Computer Science Optional (Semester– I) (NEP)

Major Subject Course Code: DSC-I

Course Title: Basics of C Programming

Total Contact Hours: 30 Hrs (30 lectures of 60 min.)

Teaching Scheme: Theory – 02 Lect. / Week

Credits: 02

Total Marks: 50

Course Outcomes:

After successful completion of this course, students will able to:

- 1) Demonstrate a familiarity of computer programming language concepts.
 - 2) Understand to develop C programs on Linux platform.
 - 3) Use basics of C language syntax as identifiers, keywords, variables, data types and operators
 - 4) Apply the concept of branching, looping, decision-making statements and Array for problem solving.
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Unit – 1 Problem Solving Using Computers (15 hrs.)

(A) Planning the Computer Program: Concept of problem solving, Problem definition, Program design, Debugging, Types of errors in programming, Documentation.

(B) Logical Continuum of Program of Programming: Linux Operating System and C Language, Introduction to GCC Compiler, Components of Compilation Process, C Program Structure, Vi Editor, Whittling the First ‘C’ Program, Checking Whether the Compiler Is Working, Execution of Make file, Character Set, C Tokens (Keywords, Identifiers, Constants, Stings, Special Symbols, Operators), Getting Used to the Data Types (Primary or fundamental, Derived and User-defined), Data type modifiers, Built-In Standard Library, Variable Declaration, Input / Output Statement, Format Specifiers, Escape Sequences, Operators, Operator Precedence.

Unit – 2 Control Structures and Arrays (15 hrs.)

(A) Decision Making and Looping Constructs: Introduction, The if Statement, The if-else Statement, Nested if-else, The Switch Case Statement, The while Loop, The odd Loop (do while), the for Loop, Loop Control Statements, Infinite Loop.

(B) Arrays: Features, Definition, Types of Arrays, Initialization of array, Memory representation of array, Single-Dimensional Array, Two-Dimensional Array, Multi-Dimensional Array.

(C) Predefined String functions

Reference Books:

1. “C Programming in an Open Source Paradigm: A Hands on approach”, K.S.Oza, S.R.Patil, R.K.Kamat River Publisher Series in Information Science and Technology, Netherland 978-87-93237-67-4 ,2015
2. ANSI C – E.Balgurusamy
3. Let us C – Y.C.Kanetkar
4. ‘C’ programming – DennisRitchie
5. Programming in ‘C’ - Venugopal