



Dempo Charities Trust's
DHEMPE COLLEGE OF ARTS & SCIENCE
Miramar, Panaji-Goa

C programming

[2 Credits 30 hours]

Course Objective:

C is a general purpose, imperative computer programming language, supporting structured programming, lexical variable scope and recursion. This course introduces various programming constructs that are needed to lay a basic foundation of programming fundamental into students.

Learning Outcome:

The students will be able to design solutions to mathematical problems and programme them using the C language.

Course Contents

1. Getting Started: What is C, Getting Started with C, The C Character Set, Constants, Variables and Keywords, Types of C Constants, Rules for Constructing Integer Constants, Rules for Constructing Real Constants, Rules for Constructing Character Constants, Types of C Variables, Rules for Constructing Variable Names, C Keywords, The First C Program, Compilation and Execution(5)
2. The Decision Control Structure : Decisions! Decisions!, The if Statement, The Real Thing. Multiple Statements within if, The if-else Statement, Nested if-elses, Forms of if, Use of Logical Operators, The else if Clause, The ! Operator, The conditional operator(5)
3. The Loop Control Structure: Loops, The while Loop, Tips and Traps, More Operators. The for Loop, Nesting of Loops, Multiple Initialisations in the for Loop, The Odd Loop. The break Statement, The continue Statement, The do-while Loop(4)
4. The Case Control Structure: Decisions Using switch, The Tips and Traps, switch Versus if-else Ladder, The goto Keyword(2)
5. Functions: Why Use Functions, Passing Values between Functions, Scope Rule of Functions Calling Convention, One Dickey Issue, Advanced Features of Functions, Function Declaration and Prototypes, Call by Value and Call by Reference, An Introduction to Pointers, Pointer Notation Back to Function Calls, Recursion, Recursion and Stack, Adding Functions to the Library(5)
6. The C Preprocessor :Features of C Preprocessor, Macro Expansion, Macros with Argument Macros versus Functions, File Inclusion(2)
7. Arrays: What are Arrays, A Simple Program Using Array, More on Arrays, Array Initialization Bounds Checking, Passing Array Elements to a Function, Pointers and Arrays, Passing an Entire Array to a Function, The Real Thing, Two Dimensional Arrays, Strings, Standard Library String Functions strlen(), strcpy(), strcat(), strcmp()(4)
8. Structures: Why Use Structures, Declaring a Structure, Accessing Structure Elements, How Structure Elements are Stored (3)

Reference: 1) Yashwant Kanetkar, Let us C

Ms Shilpa Nalk