

Core Course
CC-102 Problem Solving and C Programming

Course Introduction:

Students will be provided with basic knowledge of C programming language - control structures, loops and arrays. Students will learn to use flowchart and develop algorithms to solve problems.

Objectives:

Students would be able

- 1) To create their own logic and implement using C Programming.
- 2) To understand how to use programming in day to day application.

No. of Credits: 3

Theory Sessions per week: 4

Teaching Hours: 40 hours

UNIT	TOPICS / SUBTOPICS	TEACHING HOURS
1	Pre Programming Techniques	10 hours
	<ul style="list-style-type: none"> • Introduction to Programming Languages <ul style="list-style-type: none"> ○ Introduction to Machine level language ○ Introduction to Assembly language ○ Introduction to Higher level language ○ Limitations and Features. ○ Classification of Computer Language - Procedural Language and Non Procedural Language. 	2 hrs
	<ul style="list-style-type: none"> • Tools and Techniques of Problem Analysis <ul style="list-style-type: none"> ○ Algorithm Development and Flow Chart ○ Numerous Examples in Algorithm Development and Flow Chart 	8 hrs
2	C Language Overview	10 hours
	<ul style="list-style-type: none"> • Getting Started With 'C' Language <ul style="list-style-type: none"> ○ History of C ○ Basic Structure of C ○ Executing C program ○ Character set & C Tokens ○ Identifiers & Keywords ○ Data Types ○ Storage Class ○ Constants and Variables ○ Type Casting ○ Comments 	5 hrs
	<ul style="list-style-type: none"> • Operators & Expression <ul style="list-style-type: none"> ○ Types of Operators and Expression ○ Precedence & Associativity 	3 hrs

	<ul style="list-style-type: none"> • Console based I/O and related built-in I/O function <ul style="list-style-type: none"> ○ printf(), scanf(), getch(), getchar(), putchar() ○ Concept of Header File and #include ,#define 	2 hrs
3	Control Structure	10 hours
	<ul style="list-style-type: none"> • Decision Making Structure <ul style="list-style-type: none"> ○ If ○ If-else ○ Nested If-else ○ Switch 	4 hrs
	<ul style="list-style-type: none"> • Loop Control Structure <ul style="list-style-type: none"> ○ While ○ Do-While ○ For ○ Nested loop 	5 hrs
	<ul style="list-style-type: none"> • Other Statements <ul style="list-style-type: none"> ○ break, continue, goto, exit 	1 hrs
4	Array & String	10 hours
	<ul style="list-style-type: none"> • Array <ul style="list-style-type: none"> ○ One, Two – Dimensional Arrays ○ Initialization and working with Array. ○ Introduction to Multidimensional Arrays. 	6 hrs
	<ul style="list-style-type: none"> • Character Arrays and Strings <ul style="list-style-type: none"> ○ Initialization and working with String. ○ Comparing and String Handling functions. 	4 hrs

Textbook:

Programming In C (Second Edition)
Publication : Pearson Education
by Ashok N. Kamthane

Reference Book :

1. Simplifying C (First Edition 2010)
Publication : Dreamtech
by Harshal Arolkar and Sonal Jain
2. Programming in ANSI C (Fifth Edition 2011)
Publication : Mc Graw Hill
by Balagurusamy
3. Programming in C (First Edition 2011)
Publication : Oxford Higher Education
by Reema Thareja