

B.Sc. (I.T.) / M.Sc. (I.T.) 1st Semester

Course : 104 : Fundamentals of Programming Using C – I

Course Code	104																								
Course Title	Fundamental of Programming using C-I																								
Credit	4																								
Teaching per Week	4 Hrs																								
Minimum weeks per Semester	15 (Including Class work, examination, preparation, holidays etc.)																								
Last Review / Revision	June 2023																								
Purpose of Course	To provide fundamental knowledge of programming using C language.																								
Course Objective	To impart knowledge of basic programming concepts using C language.																								
Course Out comes	<p>CO1: Students will be able to learn various Problem-solving techniques</p> <p>CO2 : Students will be able to learn basics of c programming language and perform practical programs</p> <p>CO3 : students will be able to do string manipulation and array task</p>																								
Mapping between COs with PSOs	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <th></th><th>PSO1</th><th>PSO2</th><th>PSO3</th><th>PSO4</th><th>PSO5</th></tr> <tr> <td>CO1</td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>CO2</td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>CO3</td><td></td><td></td><td></td><td></td><td></td></tr> </table>		PSO1	PSO2	PSO3	PSO4	PSO5	CO1						CO2						CO3					
	PSO1	PSO2	PSO3	PSO4	PSO5																				
CO1																									
CO2																									
CO3																									
Pre-requisite	NIL																								
Course Outcome	Students will be able to write simple programs using C language																								
Course Content	<p>Unit : 1 : Phases of Problem Solving Methodology</p> <p>1.1 Problem Analysis Gathering available data, identifying relevant facts, Defining the problem, generating alternative methods of solution, Selecting the optimum approach</p> <p>1.2 Problem solving techniques Simplification, Divide and conquer: break down a large, complex problem into smaller solvable problems, Constraint examination</p> <p>1.3 Algorithm</p> <p>1.4 Flowchart</p> <p>Unit : 2 : Introduction to Computer Programming</p> <p>2.1 Introduction to Computer Programming Language and Program</p> <p>2.2 Programming languages and Levels</p> <p>2.3 Language Translators</p> <p> 2.3.1 Compiler</p> <p> 2.3.2 Interpreter</p> <p> 2.3.3 Assembler</p> <p>2.4 Program Verification</p> <p> 2.4.1 Program Correctness</p> <p> 2.4.2 Program Bugs & Testing</p> <p>Unit : 3 : Introduction to C language</p> <p>3.1 Overview of C</p> <p>3.2 Constants, Variables and Data types</p> <p>3.3 Operators and expressions</p> <p>3.4 Simple Assignment statement</p> <p>3.5 Basic Input/Output Statements</p>																								

P. M. Desai

	<p>3.6 Decision Making Statements 3.7 Looping 3.8 Nested Control Structures</p> <p>Unit : 4 : Array</p> <p>4.1 One dimensional Array 4.2 Declaration & Initialization of Array 4.3 Two dimensional array 4.3.1 Declaration 4.3.2 Accessing Matrix Elements 4.3.3 Operations on matrix elements and entire matrices 4.4 Array manipulation 4.4.1 Searching 4.4.2 Insertion 4.4.3 Deletion 4.4.4 Modification 4.4.5 Sorting 4.5 Multidimensional Array</p> <p>Unit : 5 : Character Array & String</p> <p>5.1 Declaration & Initialization of String 5.2 Input/Output functions for String 5.3 Arithmetic operations on String 5.4 In built Functions for handling String 5.5 Array of String</p>
Reference Book	<ol style="list-style-type: none"> 1. Programming in ANSI C : E. Balagurusamy - Tata McGraw Hill 2. Let us C : Yashwant Kanetkar - BPB Publications 3. Programming with C : R S Bichkar - Universities Press 4. The complete Reference C : Herbert Schildt - McGrawHill 5. Schaums outline of Theory and Problems of programming with C : Byron Gottfried - McGrawHill 6. C Programming Language : Karnighan & Ritchie - TMH
Teaching Methodology	Discussion, Independent Study, Seminars and Assignment

P. Y Desai