Course Code CSE101	COMPUTER PROGRAMMING AND PROBLEM SOLVING	L	T	P	C
		2	0	2	3
Version					
Course Prerequisites:	Nil				
Objectives:	1. To provide an overview of computer algorithms and problem solving techniques 2. To introduce 'C' Language that serves as a foundation for the study of different programming languages.				
Expected Outcome:	Students shall be able to 1. Apply the fundamental knowledge of computing algorithms appropriate to the problems 2. Analyze and design problems using various problems solving techniques 3. Formulate and solve computing problems using C programming language. 4. Apply algorithmic principles and current techniques for computing and engineering practice.				
Unit I	**INTRODUCTION TO COMPUTERS AND ALGORITHMS**	6 hours			
Parts of a computer – Overview of operating systems, compilers, interpreters and programming languages. Algorithms for exchanging the values of two variables, counting, summation of a set of numbers, factorial computation, sine function computation, generation of the Fibonacci sequence, reversing the digits of an integer, base conversion and character to number conversion.					
Unit II	**BASIC CONSTRUCTS IN 'C'**	6 hours			
Lexical elements – Operators - Data types – I/O statements – Format specifications – Control statements – Decision making and Looping.					
Unit III	**ARRAYS**	6 hours			
Arrays handling in C – Declaration – single dimensional arrays, two – dimensional arrays, multi-dimensional arrays, sorting and searching on single and two dimensional arrays. Character array – string handling functions – manipulation on strings.					
Unit IV	**FUNCTIONS & POINTERS**	8 hours			
Prototype Declaration - Arguments (formal and actual) – Return type – types of functions, difference between built-in and user-defined functions, introduction to pointers, passing parameters by value and reference, recursive functions, scope and life time of variables – storage classes.					
Unit V	**STRUCTURES AND UNION**	4 hours			
Declarations - nested structures – array of structures – passing structure to functions - union- difference between structure and union.					
Text / Reference Books	1. Yeshawant Kanetkar, Let Us C, Jones & Bartlett Publishers, 11th Edition, 2008. 2. R.G. Dromey, How to Solve it by Computer, Prentice Hall of India, 2001. 3. Ashok Kamthane, Programming in C, 2nd Edition, Pearson Education, 2001.				
Mode of Evaluation	Tests, Assignments, Seminars				
Recommended by the Board of Studies on					
Date of Approval by the					

Academic Council	