

Subject Code: 1ET4000108	Subject Title: Computer Programming-I
Pre-Requisite	--

RATIONALE:

This Course intends to develop programming skills in the students, using a popular structured programming language 'C'. The students will learn step by step procedure (i.e. flowcharting & Algorithm) of any program development process. The programming skills thus acquired using 'C' language can be used for acquiring necessary programming skill to work with advance level programming languages which in turn will be helping in developing programs for the scientific, research and business purposes.

COURSE OBJECTIVE:

- To make the student learn a programming language.
- To learn problem solving techniques.
- To teach the student to write programs in C and to solve the problems.
- Practice the use of conditional and looping statements.

TEACHING AND EVALUATION SCHEME:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				Total (Marks)
Lecture	Tutorial	Practical	Credit	Theory		Practical		
				University Assessment	Continuous Assessment	University Assessment	Continuous assessment	
3	-	4	5	60	40	40	60	200

DETAILS OF COURSE CONTENTS:

S. NO.	Topic and Sub-Topics	Total Hrs.	WEIGHTAGE %
Unit - 1	Algorithm and Flowchart Basic of Algorithm, Structure of Algorithm, Flowcharts, Definition, Importance of Flowcharts, Flowchart Symbols, Flowchart structure	05	10
Unit - 2	Introduction to Programming Types of Programming language, History of C, Importance of C, Applications, Basic Structure of C Programming, Execution of C Programs, printf and scanf, Comments	08	20

Unit - 3	Constants, Variables and Data Types Character Set, C Tokens, Keywords and Identifiers, Constants, Variables, Data Types, Declaration of Variables, Storage Class, Assigning Values to Variables, Constant variable Motors, Concept of wind farms, its applications	05	20
Unit - 4	Operators and Expression Introduction to Operators, Arithmetic Operators, Relational Operator, Logical Operators, Assignment Operator, Increment and Decrement Operators, Conditional Operators, Bitwise Operators, Comma Operator, sizeof() operator, Arithmetic Expression and its evaluations, Operator Precedence, Type Conversions: Implicit, Explicit	08	20
Unit - 5	Decision Making with Branching and Looping simple if, if...else, nested if...else, else...if ladder, switch statements, Ternary operator, goto, While, do...while, for, break, continue	10	20
Unit - 6	Arrays Introduction, One Dimensional Arrays, Declaring of one Dimensional arrays Initialization	06	10

COURSE OUTCOME:

The purpose of this course is to introduce to students to the field of programming using C language. The students will be able to enhance their analyzing and problem solving skills and use the same for writing programs in C.

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

- Implement the algorithms and draw flowcharts for solving Mathematical and Engineering problems.
- Read, understand and trace the execution of programs written in C language.
- Write the C code for a given algorithm.
- To be able to develop C programs on linux platform.
- Able to Design and Develop and Analyze Computer Program using concepts of Declaration , Initialization, Looping, Branching etc...

SUGGESTED LIST OF EXERCISES/PRACTICAL/EXPERIMENTS:

1. Draw Flow Chart and write algorithm for at least four problems.
2. Write minimum 6 programs using Constants, Variables
3. Write minimum 3 programs for arithmetic expression.
4. Write programs to understand Data types.
5. Write programs to understand Type modifiers.
6. Write programs to understand Type conversion.

7. Write a programs to perform formatted output.
8. Write minimum 5 program for each types of operator.
9. Write programs using If, If-else, If-else-if and Nested If statements.
10. Write programs using break, continue, goto and switch statements.
11. Write programs to understand simple for loop and nested loops.
12. Write programs using While Loop and do-while loop
13. Write programs on arrays.

LIST OF REFERENCES:

Text Books

Programming in ANSI C by E Balagurusamy (McGraw Hill)

Reference Books

Let Us C by Yashavant Kanetkar (BPB Publications)

E- Learning References

<https://www.beginnersbook.com>

<https://www.tutorialspoint.com>

<https://www.geeksforgeeks.org>

<https://www.vlab.co.in>