

Description	Subject Teaching Methodology	L	T	P	C
Course/ Code	COMPUTER PROGRAMMING Common to (CE, EEE, ME, ECE, CSE, AME, MIN)	3	1	0	3
Teaching	Total contact hours - 50				
Prerequisite (s)	Basic knowledge about Computer, Algorithm and Flowchart.				

Course Objective(s):

- To impart adequate knowledge on the need of programming languages and problem solving techniques.
- To develop programming skills using the fundamentals and basics of C language.
- To enable effective usage of arrays, strings, functions, pointers.
- To teach the basics of pre-processors available with C Compiler.

Unit-1: Introduction to Programming

Objective: To identify the basic operation of CPU by using different number system, notion of algorithm, flowchart, program, and different languages in computer programming.

(CO1, CO2)

Introduction to Computers: Introduction to computer programming, Algorithm, flow chart, Program development steps.

Computer languages: Machine level, Assembly level and High-level language.

Number System: conversions- decimal, binary, octal, hexadecimal.

‘C’ Fundamentals: Structure of a C-program, C-character set, C Tokens- variables, constants, identifiers, data types and sizes, operators.

Unit-2: Control Structures

Objective: To Understanding the concept of various control structures, branching and different decision making techniques. (CO3)

I/O Functions: Header files, Standard I/O library functions-formatted I/O functions.

Decision making statements: simple if, if-else, nested if-else, else-if ladder, switch-case statements and sample programs.

Iterative Statements: for, while, do-while. Jump Statements-break, continue, goto

Unit-3: Introduction to Array, Structure and Pointer

Objective: To identify the concept of array, structure and use of pointers for accessing the values of memory allocation in the program. (CO4)

Arrays- declaration, initialization, storing and accessing elements of 1-D, 2-D and multi-dimensional arrays. **Array Applications-** addition, multiplication, transpose, symmetry of a matrix.

Structure: Declaration, initialization, storing and accessing elements by using structure and union.

Pointers: Introduction to pointers, defining a pointer variable, Pointer to Pointer, Examples of pointers, using pointers in expressions, pointers and arrays.

Unit-4: Strings

Objective:To understanding the data representation by using String.(CO4)

Strings- declaration, initialization, reading and writing characters into strings, string operations, character and string manipulation functions.

Unit-5: Functions & Preprocessors

Objective:To understanding the concept of Modularprogrammingand use of Pre-Processors in program.(CO5)

Functions- declaration, definition, prototype, function call, return statement, types of functions, parameter passing methods, and function recursion.

Preprocessor: #define, #include Statement, #ifdef, #endif, and storage classes.

Course Outcomes:

After successful completion of this course, a successful student will be able to:

- CO-1. To obtain the knowledge about different languages used in computer programming and also about the number systems which will be very useful for bitwise operations and basic terminology used in the computer programming.
- CO-2. To obtain knowledge about algorithm, flow chart, and structure of C program and different C tokens used inside C program.
- CO-3. To develop program by using Control structure,different looping and Jump statement.
- CO-4. To obtain knowledge about the application and implementation of 2-dimensionalArray and string inside the program.
- CO-5. To obtain knowledge about different functionalities of Preprocessors and also to develop the program by using different type of function calls.

Text Books

1. "Programming in ANSI C" by E.Balagurusamy,McGraw Hill Publications.
2. "Programming in C" by Ashok N. Kamthane, 2/e Pearson, 2013.
3. "The C – Programming language" B.W.Kernighan, Dennis M. Ritchie.PHI.
4. "Let Us C", 12th Edition by Yashavant P. Kanetkar online in India.

Reference Books

1. Programming in C by Ajay Mittal, Pearson.
2. Programming with C, Bichkar, Universities press.
3. Programming in C, ReemaThareja, OXFORD.

Course Code : Computer Programming-1 (16199205)													
Course designed By:Department of Computer Science and Engineering													
	Program Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Course Outcomes	CO1	✓											
	CO2			✓									
	CO3					✓							
	CO4					✓							
	CO5	✓		✓		✓							
Category	General Humanities			Basic Sciences		Engineering Sciences and Technical			Professional Subjects				
						✓							
Mode of Evaluation:Quiz, Assignment, Seminar, Written Examination.													

