

Subject Code: 01CE1101

Subject Name: Computer Programming

B. Tech. Year – I (Semester - 2)

Objective : Students are expected to learn basics of Computer Programming which will help them to apply these concepts in day-to-day life. The course discusses various notations that required for developing algorithm and for C language, which is used in many commercial, industrial as well as industrial applications. Keeping in view wide applications of files, a special unit of files is introduced.

Course Outcome :

After completion of this course, student will be able to

1. Able to explain programming problems logically through flow charts and algorithms.
2. Identify programming principles using C Language.
3. Demonstrate problem solving skills through C Language.
4. Generate computer-based solution for real time problem using programming language.
5. Develop confidence to self-educate new programming languages.

Teaching and Examination Scheme :

Teaching Scheme			Credits	Examination Marks					Total Marks
THEORY	TUTORIAL	PRACTICAL		Theory Marks			Practical Marks		
			ESE(E)	IA	CSE	Viva (V)	Term Work (TW)		
4	0	2	5	50	30	20	25	25	150

Content :

Sr. No.	Content	Total Hrs.
1	Introduction: Basic organization of a Computer, Languages Low level – high Number level, System – Binary – Decimal conversion problems, Flowchart, Algorithm, problem solving using flowchart and algorithm	06
2	C Programming Basics: Introduction to C Programming, Structure of 'C' program, compilation and linking processes, Constants, Variables, Data Types, C Tokens, Expression using operators in 'C', Type Conversion and Type Casting	07

3	Control Structure and Looping: Decision Making statements, Switch statement, Conditional operator, Looping – Entry and Exit control loops, concept of jump, break and continue.	08
4	Array and String: Declaration and initialization of array, Types of arrays, sorting and matrix operation using array, Strings – string operations, string array, string functions	09
5	Functions: Functions – Definition of function, Declaration of function, call by value, Call by references, Recursion.	08
6	Structure and Union: Need of structure data type, structure definition, structure declaration, structure within structure, difference between structure and union.	04
7	Pointers and Dynamic Memory Allocation: Pointers – Definition, Initialization, pointer arithmetic, pointer and array, Chain of pointer. DMA concepts, DMA functions – Malloc(), Calloc(), Realloc(), Free().	05
8	File Management: Introduction to file management and its functions.	03

Distribution of Theory Marks

R Level	U Level	A Level	N Level	E` Level	C Level
20	30	25	15	10	--

Legends: R: Remember; U: Understand; A: Apply; N: Analyze; E: Evaluate; C: Create

List of Experiments:

1. Write a program to print student detail.
2. Write a program to calculate simple interest.
3. Write a program that accepts centigrade and convert it into Fahrenheit.
4. Write a program that accepts two numbers in A and B interchange value of A and B variable.
5. Write a program to demonstrate the use of the basic data types int, char and float.
6. Write a program to demonstrate the use of Arithmetic operators by getting two numbers From the user

Reference books:

1. Programming in ANSI C by Balaguruswamy
2. Programming With Ansi And Turbo C book : Ashok Kamthane



3. Programming in C Ansi standard, by Yashwant Kanetkar
4. Programming with C, Gottfried, McGraw-Hill.

List of Open Base Software / learning website:

1. www.nptel.ac.in
2. <https://swayam.gov.in/explorer>