



Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
			C	ESE (E)	PA (M)	ESE (V)	PA (I)	
3	-	0	3	50	-	-	-	50

Course Content:

Unit No.	Content	Hrs
1	Introduction to ‘C’ Language - Character set, Variables and Identifiers, Built-in Data Types, Variable Definition, Arithmetic operators and Expressions, Constants and Literals, Simple assignment statement, Basic input/output statement, Simple ‘C’ programs.	6
2	Conditional Statements and Loops - Decision making within a program, Conditions, Relational Operators, Logical Connectives, if statement, if - else statement, Loops: while loop, do while, for loop, Nested loops, Infinite loops, Switch statement, structured Programming.	7
3	Arrays - One dimensional arrays: Array manipulation; Searching, Insertion, Deletion of an element from an array; Finding the largest/smallest element in an array; Two dimensional arrays, Addition/Multiplication of two matrices, Transpose of a square matrix; Null terminated strings as array of characters, Standard library string functions	6
4	Functions - Top-down approach of problem solving, Modular programming and functions, Standard Library of C functions, Prototype of a function: Formal parameter list, Return Type, Function call, Block structure, Passing arguments to a Function: call by reference, call by value, Recursive Functions, arrays as function arguments.	8
5	Storage Classes - Scope and extent, Storage Classes in a single source file: auto, extern and static, register, Storage Classes in a multiple source files: extern and static	4
6	Structures and Unions - Structure variables, initialization, structure assignment, nested structure, structures and functions, structures and arrays: arrays of structures, structures containing arrays, unions	4
7	Pointers - Address operators, pointer type declaration, pointer assignment, pointer initialization, pointer arithmetic, functions and pointers, Arrays and Pointers, pointer arrays, pointers and structures, dynamic memory allocation.	4
8	File Processing - Concept of Files, File opening in various modes and closing of a file, reading from a file, writing onto a file	3
Total Hours:		42

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks				
R Level	U Level	A Level	N Level	E Level
5	25	25	10	5



GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Bachelor of Vocation (D.Voc), 5th Semester

Branch: Software Development

Subject Name: Programming in C

Subject Code: 1250203

**With effective
from academic
year 2019-20**

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate and above Levels (Bloom's Taxonomy)

Reference Books:

1. Programming in ANSI C by Balagurusamy