



SARDAR PATEL UNIVERSITY
Vallabh Vidyanagar, Gujarat
(Reaccredited with 'A' Grade by NAAC (CGPA 3.25)
Syllabus with effect from the Academic Year 2021-2022

Master of Science (Electronics)
M.Sc.(Electronics)Semester II

Course Code	PS02CELE53	Title of the Course	Programming in C / C++
Total Credits of the Course	4	Hours per Week	3+1=4Hours

Course Objective	<ol style="list-style-type: none">1. To implement the algorithms and draw flowcharts for solving simple problems.2. Demonstrate an understanding of computer programming language concepts.3. To be able to develop C programs4. To define data types and use them in simple data processing applications also he/she must be able to use the concept of array of structures.5. To design and develop Computer programs, analyzes, and interprets the concept of pointers, declarations, initialization, operations on pointers and their usage.6. To Develop confidence for self education and ability for life-long learning needed for Computer language
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Course Content		
UNIT	Description	Weightage*%
	Program Design and Coding, Introduction to C language, constants, Variable and data types and storage classes, operators and their precedence, expression, Managing Input and Output. Decision Making and Branching- if-statement if-else statement, if-else if statement, Decision Making and looping - while loop, do - while loop.	25
2	Arrays – one, two and multidimensional array, Handling of character Array (String). User defined functions – Types of User defined function, Nesting of function, Recursion, User derived data types – Structure and Union, structure and functions, Pointer, File Management in C, Command line argument.	25
3	C – Preprocessor – Preprocessor directives, Graphics, Programming in C – Resolution of screen, Aspect ratio, Display modes, Pixel, Drawing various objects, Animation, Dynamic memory allocation in C.	25





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4	Assembly level programming via C, Interrupts, Parallel and Serial I/O ports, Interfacing Mouse, Interfacing I/O port for Analog to Digital converter and Digital to Analog converter using C. Introduction to object oriented programming, The C++ Class and methods in C++, console I/O, Stack as an example in C++.	25
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Teaching-Learning Methodology	Traditional Classroom teaching with use of Multimedia facility in the classroom. Use of Computer Tool for live demonstration and problem / design based approach.
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Evaluation Pattern		
Sr. No	Details of Evaluation	Weightage
1	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2	Internal Continuous Assessment in the form of Practical, Viva Voce, Quizzes, Seminars, Assignments, Attendance (as per CBCS R6.8.3)	15%
3	University Examination	70%

Course Outcome. Having completed this course, the learner will be able to	
1	Design, develop and test programs in C programming language to solve problems related to collecting, processing and storing data.
2	Identify and explain the use and workings of programming tools (such as compilers, linkers and debuggers), standard libraries and operating system functions to support program execution.

Suggested References:	
Sr.No.	References
1	Programming in ANSI C E Balaguruswami, (BPB Publications, New Delhi, INDIA)
2	Teach Yourself C Charles Siegel, (BPB Publication, New Delhi, INDIA)
3	The Spirit of C Henry Mullish and Herbert L. Cooper, (Jaico Publishing House, New Delhi, INDIA)

On-line resources to be used if available as reference material
On line resources.
. https://www.w3schools.in/c-tutorial/

