



Teaching and Examination Scheme:

Teaching Scheme			Credit C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE (E)	PA(M)	ESE(V)	PA(I)	
0	0	2	2	-	-	30	20	50

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment

Programming Fundamentals:

- Data Types: Concept of data types; Built-in data types -byte, short, int, long, float, double, char, string, boolean
- Variables: Need to use variable, declaring variables, variable naming convention, assigning value to variables;
- Integer object method: parseInt
- Double object method: parseDouble, parseFloat
- Control Structures: Decision Structure –if, if-else, switch; Looping Structure-while, do-while, for;

Programming Guidelines:

- General Concepts; Modular approach;
- Stylistic Guidelines: Clarity and simplicity of expressions and names; Comments, Indentation;
- Running and debugging programs, Syntax Errors, Run-Time Errors, Logical Errors;
- Problem Solving Methodology: Understanding of the problem, identifying minimum number of inputs required for output, breaking down problem into simple logical steps.

Content:

Sr. No.	Practical / Hands on Exercise	Hrs.
1	a. Write a program to print —HELLO WORLD. b. Write a program that reads two nos. from key board and gives their addition, subtraction, multiplication, division and modulo. c. Write a program to convert days into months and days	3
2	a. Write a program to select & print the largest of the three nos. using Nested-If-Else statement. b. Write a program to display multiplication table. c. Write a program to find sum of first N odd numbers. Ex. 1+3+5+7+.....+N.	3
3	a. Write a C Program to print following Patterns. * * * * * *	3



	<p>****</p> <p>b. Write a C Program to print following Patterns.</p> <pre>1 0 1 1 0 1 0 1 0 1</pre> <p>c. Write a C Program to print Pascal Triangle.</p>	
4	<p>a. Write a C Program for making basic calculator using switch statement.</p> <p>b. Write a C program to add two matrix.</p> <p>c. Write a C program to read array of integers and print it in reverse order</p>	3
5	<p>a. Write a C program to find length of string using strlen() function</p> <p>b. Write a C program to copy one string to another string.</p> <p>c. Write a C program find given string is palindrome or not using string library function.</p>	3
6	<p>a. Write a function power that computes x raised to the power y for integer x and y and returns double type value.</p> <p>b. Write a program that used user defined function Swap () and interchange the value of two variable.</p> <p>c. Write a program to find factorial of a number using recursion.</p>	3
7	<p>a. Define a structure type, personal, that would contain person name, date of joining and salary. Using this structure, write a program to read this information for one person from the key board and print the same on the screen</p> <p>b. Define a structure called cricket that will describe the following information:</p> <ol style="list-style-type: none"> Player name Team name Batting average 	3
8	<p>a. Write a program using pointer and function to determine the length of string.</p> <p>b. Write a program using pointer to read an array if integer and print element in reverse order.</p> <p>c. Write a program using pointer to concate two strings.</p>	3
9	<p>a. Write a C program to illustrate reading files contents.</p> <p>b. Write a C program to illustrate writing in files.</p> <p>c. Write a C program to illustrate the use of fgets () and fputs()</p>	3
10	<p>a. Write a program that uses a table of integers whose size will be specified interactively at run time.</p> <p>b. Write a program to store a character string in block of memory space created by malloc and then modify the same to store a large string.</p>	3
	Total	42

Suggested Specification table with Marks (Practical):

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

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



GUJARAT TECHNOLOGICAL UNIVERSITY
Syllabus for Bachelor of Vocation (B.Voc), 1st Semester
Branch: Information Technology
Subject Name: Programming in C Lab
Subject Code: 1110506

**With effective
from academic
year 2022-23**

Reference Books:

1. Programming in ANSI C by Balagurusamy
2. Let Us C, by Yashwant Kanetkar

Course Outcomes:

At the end of this subject, students should be able to:

1. Apply basic programming principles using C language.
2. Apply basic C program structure in software development
3. To understand different control structures in C.
4. To understand basic of array and string functions.
5. To understand user-defined functions.
6. To understand pointer, structure, dynamic memory allocation and file management.