



# **C. U. SHAH UNIVERSITY – WADHWAN CITY**

## **FACULTY OF TECHNOLOGY AND ENGINEERING B. TECH. SEMESTER: - I**

**Department: All Branches CE/IT/EC/MECH/EEE/AUTO/IC/EE/CIVIL**

**SUBJECT NAME: Fundamentals of Computer Programming (FCP)**

**SUBJECT CODE: 4TE01FCP1**

### **Teaching & Evaluation Scheme: -**

Subject Code	Subject Name	Teaching Scheme (Hours)				Credits	Evaluation Scheme							
		Th	Tu	Pr	Total		Theory				Practical (Marks)			Total
							Sessional Exam		University Exam		Internal		University	
							Marks	Hours	Marks	Hours	Pr/Viva	TW	Pr	
4TE01FCP1	Fundamentals of Computer Programming (FCP)	4	0	2	6	5	30	1.5	70	3.0	30	20	-	150

### **Objectives:-**

This course provides an entry-level computer programming concept. The main aim of the course is to develop the Logical and programming ability in students, and to improve their proficiency in applying the computing fundamentals to their field of study.

### **Prerequisites:-**

Basic knowledge of computer.

### **Course outline:-**

Sr. No.	Course Contents	Total Hours
1	<b>Fundamentals of Computer:</b> What is computer? History of computer, Block diagram of computer system, Hardware and software, Overview of types of operating systems, Compiler and interpreter, Programming Languages, Flowchart and Algorithm.	10
2	<b>Overview of C:</b> History of C, Features of C, Basic structure of C program, Process of executing a C program, Character set, trigraph sequences, C tokens, Data type, Variable, Storage class, Symbolic Constant, Overflow of data, Operators, Operator Precedence and Associativity, Type conversions, I/O Functions.	07
3	<b>Branching &amp; Looping statements:</b> Introduction, if statement, types of if statement, switch statement, while statement, for statement, do-while statement, goto statement, break and continue statement	10

4	<b>Array &amp; Structure:</b> Introduction, One-dimensional array, Two-dimensional array, multidimensional array, limitation of array, strings, string handling functions, table of string, defining a structure, declare and accessing structure variable, structure member as array, structure variable as array, structure within structure, unions, bit fields	10
5	<b>Pointer:</b> Introduction, advantages, declaration of pointers, chain of pointers, scale factor, pointers and arrays, pointers and structures	06
6	<b>User-defined functions:</b> Introduction, advantages of functions, elements of functions, categories of functions, recursion, function and arrays, functions and structure, functions and pointers	07
7	<b>File Management and Dynamic Memory Allocation:</b> Introduction, defining and declaring a file, I/O operations on files, overview of command line arguments, overview of malloc(), calloc(), free() functions	07

#### **Learning Outcomes:-**

- Basic Programming & technical skill will be improved, students able to solve programming problem in easiest way, it improves mathematics problem solving ability.
- Provide base foundation which will be considered as a base platform for other higher level language used for real world problem solving.

#### **Books Recommended:-**

1. Programming in ANSI C, E. Balagurusamy, PHI
2. Let us C, Yaswant Kantikar, BPB
3. C: The Complete Reference, Herbert Schildt, McGrawHill
4. Computer concepts and Programming, Vikas Gupta, DreamTech
5. Computer fundamentals and Programming in C, Pradip dey and Manas Ghosh, Oxford

#### **E-Resources:-**

1. [www.cprogramming.com](http://www.cprogramming.com)
2. [www.c4learn.com](http://www.c4learn.com)
3. [www.strostrup.com/programming](http://www.strostrup.com/programming)