

GUJARAT TECHNOLOGICAL UNIVERSITY

Integrated MCA

Year – 1 (Semester – I) (W.E.F. JULY 2018)

Subject Name: Fundamentals of Programming 1 (FOP-1)

Subject Code: 2618603

1. Objectives:

- To acquire the ability to develop logic, corresponding flowcharts and an algorithm for solving programming problems.
- To learn about the data types, operators and functions in C programming language.
- To be able to write code in C programming language for a variety of problems

2. Prerequisites: Logical thinking, Basic Mathematics including number systems

3. Course Contents:

Sr. No.	Course Content	Weightage Percentage
1	Introduction to programming: Programs & programming, programming languages, compiler, interpreter, loader & linker, C program execution, Classification of Programming Languages, Concept of Structured Programming and Algorithms; Good programming practices: In-line comments, Meaningful variable names, etc	10%
2	C Programming Basics: Simple program in C, Structure of C Program, Concept of Variable, Data types in C, Program statements, declarations, How the computer stores data in memory, Tokens, Operators and Expressions, Expressions revisited, L-values and R-values, Working with complex numbers. Input Output: Basic Screen and Keyboard I/O in C, Unformatted Input and Output, Formatted Input and Output Functions	15%
3	Control Statements: Specifying Test Condition for Selection and Iteration, Writing Test Expression, Conditional execution and selection, Iteration and	15%

	Repetitive Execution: for and while loops; when to use which loop, goto statement, special control statements, nested loops.	
4	Arrays & strings: One-dimensional Array, Strings, String: One dimensional Array, Multi-dimensional array, Array of string, two dimensional Arrays	30%
5	Functions: Concepts of Function, Using Functions, Working with function, Passing array to Function, Scope and Extent, Storage class, In-line function	30%

4. Main Reference Books:

Pradip Dey, Manas Ghosh, “Programming in C”, Second Edition, Oxford Higher Education

5. Suggested Additional Reading:

- Programming in ANSI C, by Balaguru samy, Publisher - Tata McGraw Hill.
- Programming with ANSI and Turbo C, by Ashok N Kamthane, Publisher – Pearson Education.
- Mastering C, by Venugopal & Prasad, Publisher – Tata McGraw Hill.
- C: The Complete Reference, by Herbert Schildt, Publisher – Tata McGraw Hill.
- Let us C, by Yashwant Kanitkar, Publisher – BPB Publication

6. Chapter wise Coverage from Main Reference Book(s):

Unit No.	Chapter No.
1	1
2	2,3
3	4
4	5
5	6 (Except 6.4, 6.10,6.11, 6.12)