

---

**Rahul Computers**

**Vishrantwadi and Wagholi, Pune.**

**rahulcomp2000@yahoo.com**

**9881604914, 9657036906**

---

**Subject : C**

**Contents**

---

**Basics of Programming**

**Introduction to C**

**Steps to Write a C Program**

**Datatypes, Variables, Constants.**

**Operators in C**

Unary, Binary and Ternary

Operator Classification

Operator Priority and Execution Sequence

**Streams**

**Introduction to Functions and Header Files.**

**Life of C Program, main() Function.**

## **Introduction and Use of Pre-Defined Functions.**

### **Conditional Branching of Program Code Using**

if statement

if-else statement

if-else if-else statement

Nesting

switch selection statement

## **Loops**

Introduction

Types

for

while

do while

Loop Control Statements

break

continue

Nesting

Logic Development Programs

## **Arrays**

Introduction, Concept and Implementation.

Array\_INITIALIZER

Implementation of Various Searching Techniques

Sequential Search

Indexed Sequential Search

Binary Search

Implementation of Various Sorting Techniques

Bubble Sort

Selection Sort

Insertion Sort

## **Strings**

Introduction, Features, Implementation.

String\_INITIALIZER

String Operations

Using Header File string.h

Using Custom Code.

String Length

String Copy

String Concatenation

String Reverse

String Comparison

String Palindrome Check

String Conversion

Studying ASCII Character Set

## **Multi-Dimensional Arrays (Matrix)**

Introduction, Features, Implementation.

Matrix Initializer

Numerous Matrix Operations

Addition

Copy

Transpose

## **struct and union**

Introduction, Features, Implementation.

struct Variables

struct Initializer

struct Arrays

Nested structs.

Numerous struct Operations and Operators.

Comparison of struct and union type.

## **Functions**

Introduction, Features, Implementation.

Function Parameters

Pass By Value

Pass By Reference

Variables, Arrays, structs, Matrices, etc as Function Parameters.

Functions Returning Value

void Functions

Recursion.

## **Pointers**

Introduction, Features, Implementation.

Pointer Referencing

Pointer Dereferencing

Pointer Data Type and Its Importance

Pointer Arithmetic

Pointer to Variable

Pointer to Array

Pointer to struct

Pointer to String

Pointer to Matrix

Pointer to Function

Pointers to Pointer

Generic (void) Pointers.

Dynamic Memory Management

malloc

calloc

realloc

free

## **File Handling**

Introduction, Features, Implementation.

File Open Modes

Various File Operations

File Read.

File Write

File Copy

File Length

## **Bitwise Operators**

Decimal To Binary Conversion

Left Shift Operation

Right Shift Operation

Ones Complement Operation

Bitwise And

Bitwise Or

Bitwise Xor

## **Storage Class Specifiers**

Auto

Static

Register

Extern

## **Preprocessor**

Introduction, Features, Implementation

Preprocessor Directives

#include

#define

#undef

#ifdef

#if

#elif

#else

#endif

Macros

Parameterized Macros

Comparison between Functions and Macros

**Custom Header File Development**

**Command Line Arguments**

**Application Development Using C**

**Executing C Applications From DOS/UNIX Shell**