

**C. K. Pithawalla College of Engineering and Technology Surat**  
**Computer Programming & Utilization(2110003)**

**Assignments (Div A, B, C)**

❖ Introduction to computer and programming

1. Draw and explain the block diagram of Computer System.
2. What is Software and Hardware? Explain different types of Software.
3. List and explain types of computer languages.
4. Explain flow chart with different symbols used in flowchart.
5. Draw a flowchart to find out factorial of given N numbers.
6. Define (I) Assembler (II) Compiler (III) Interpreter

❖ Fundamental of 'C'

1. Explain basic structure of 'C' program.
2. List and explain fundamental and derive data types of 'C' language.
3. Define the term Header file. List the header files used in c Programming with their properties. Discuss the important of stdio.h header file.
4. Define terms: Keywords, identifiers, Constants, Variable, typedef keyword.
5. What is difference between keywords and identifiers? Explain rules for naming an identifier.
6. Explain getch (), getchar (), getche(), putchar(), gets (), puts ().
7. Explain different type of operators used in c language with their precedence and associativity.
8. Explain ternary (?:) and size of operator with syntax and proper example.
9. What is type conversion? List and explain type conversion supported by C language with example.

❖ Control structure in 'C'

1. Explain control structure with appropriate flowchart, syntax and example. (if..else, nested if, else if ladder, switch, goto, break)
2. Explain various types of loop available in C with example.
3. Compare entry controlled loop (top-tested) and exit controlled loop (bottom-tested) with example.

❖ Array & String

1. What is array? Give example of array.
2. How to declare and initialize 1-D array, 2-D.
3. What is string? In how many ways can you accept data in a string?
4. Explain following string manipulation function. Strcat (), strcpy (), strcmp () and strlen ().

❖ Functions

1. Briefly discuss about scope of variable.
2. List out the categories of functions of C. Explain any one category with example.
3. What is user defined function? Explain actual argument and formal arguments.
4. What is function? Explain the function definition, function prototype and function call with example.

5. Explain various types of function call in 'C'.
6. What do you mean by recursive function?
7. Briefly discuss about scope of variable.
8. Define Macro, Pre-processing

#### ❖ Pointers

1. What is Pointer and how is it different from Array?
2. Explain benefits of pointer.
3. How to initialize Pointer? Explain arrays of pointer.

#### ❖ Structure

1. What is structure? Explain with an example. How is an array of structure initialized?
2. Explain nested structure and array of structure.
3. Distinguish between Structure and Union.
4. Distinguish between "structure" and "array". Discuss the meaning and purpose of struct keyword.

#### ❖ Dynamic Memory Allocation

1. Explain dynamic memory allocation.
2. Difference between static memory allocation and dynamic memory allocation.
3. Explain the use of malloc() and calloc() function with their syntax.
4. Differentiate between malloc() and calloc()?

#### ❖ File Management

1. What is file management?
2. List the different file management functions and explain the various file modes.
3. Distinguish between the following functions:  
(I) "printf" and "fprintf" (II) "feof" and "ferror".