

MYMENSINGH POLYTECHNIC INSTITUTE

TECHNOLOGY: **Mechanical**

Semester Plan

Sub Name: PROGRAMMING IN C
Sub Code: 28567
Semester: 5 th , Shift: 2 nd

T	2 Nos theory class per week
P	3 Period practical class per week
C	3 Credit hour & 1 Credit 50 Mark

Week	Theory	Learning Materials	Practical Job No	Practical
	Content			Content
	Specific Objectives			Practical Name
1	Fundamentals of C Programming 1.1 Describe the historical development of C Programs. 1.2 Describe the basic structure of C program and programming style . 1.3 Differentiate between C and other high level languages. 1.4 Explain the process of program planning.	MKER PEN, WHITE BOARD, MULTIMEDIA CONTENT & YOU TUBE CONTENT	1	Create, compile, debug & execute a C program 1.1 Print a message. 1.2 Add two integer/float numbers. 1.3 Maintain the record of performed task.
2	Fundamentals of C Programming 1.5 Describe the algorithm and flow chart. 1.6 State the compiling process of C program. 1.7 Write simple programs using basic structure of C program.		2	Create, compile, debug & execute a C program using constants and variables 2.1 Calculate the average of N numbers. 2.2 Convert the given temperature in Fahrenheit to Celsius and vice versa. 2.3 Calculate the area of a circle. 2.4 Maintain the record of performed task.
3	Data types, Constants and Variables 2.1 Describe the data types in C. 2.2 Explain constants and variables in C. 2.3 Describe the keywords and identifiers in C. 2.4 Mention the uses of qualifiers in data types.		3	Create, compile, debug & execute a C programs using operators and expressions. 3.1 Convert days to month to year. 3.2 Calculate the area of a triangle. 3.3 Compare two integer numbers. 3.4 Maintain the record of performed task.
4	Data types, Constants and Variables 2.5 State variables and assign values to variables. 2.6 State the type conversion and type definition in C. 2.7 Write simple programs using constants and variables. Class Test-1		4	Create, compile, debug & execute a C program using I/O statements 4.1 Read integer/real number. 4.2 Find the sum of three floating point numbers from keyboard. 4.3 Convert centimeter to inch using scanf () and printf () statements. 4.4 Maintain the record of performed task.
5	Operators and Expressions 3.1 State operators and classification of operators in C Language. 3.2 Describe the arithmetic, relational, logical, assignment, increment, Decrement and conditional operators. 3.3 Explain the bitwise and special operators and their use.		5	Create, compile, debug & execute a C program using Branching Statements. 5.1 Select and print the largest number of three numbers. 5.2 Compute the roots of a quadratic equation. 5.4 Count vowels from a string of ten characters using switch statement.

				5.4 Maintain the record of performed task.
6	<p>Operators and Expressions</p> <p>3.4 Write arithmetic expression & process of evaluation in C.</p> <p>3.5 Describe the precedence of arithmetic operators in C.</p> <p>3.6 Mention operator precedence and associativity.</p> <p>3.7 Write simple programs using operators and expressions.</p> <p>Quiz Test-1</p>		6	<p>Create, compile, debug & execute a C program using Looping Statements</p> <p>6.1 Print odd or even numbers from N numbers.</p> <p>6.2 Find the maximum or minimum number from a set of numbers.</p> <p>6.3 Check whether a number is prime or not.</p> <p>6.4 Print out prime number series.</p> <p>6.5 Maintain the record of performed task.</p>
7	<p>Input and Output operations</p> <p>4.1. Describe the statements getting input from keyboard.</p> <p>4.2. Describe the statements printing output on screen and printer.</p> <p>4.3 State the codes used for formatted I/O statements.</p> <p>4.4 Mention the escape sequence in C.</p> <p>4.5 Write programs using I/O statements.</p>		7	<p>Create, compile, debug & execute a C program using arrays</p> <p>7.1 Sort numbers in ascending or descending order using one dimensional array.</p> <p>7.2 Access the elements of array.</p> <p>7.3 Add, multiply two matrix using multidimensional arrays.</p> <p>7.4 Print array elements.</p> <p>7.5 Maintain the record of performed task.</p>
8	Mid Term Examination		8	Mid Term Examination
9	<p>Branching and Looping statements</p> <p>5.1 Describe the conditional and unconditional branching flow statements.</p> <p>5.2 State the statement for conditional and unconditional branching statements.</p> <p>5.3 Explain the format for branching statements.</p> <p>5.4 Describe the conditional and unconditional looping flow statements.</p>		9	<p>Create, compile, debug & execute a C program using pointers</p> <p>8.1 Illustrate the use of pointers in arithmetic operations.</p> <p>8.2 Compute the sum of all elements stored in an array.</p> <p>8.3 Maintain the record of performed task.</p>
10	<p>Branching and Looping statements</p> <p>5.5 State the statement for conditional and unconditional looping.</p> <p>5.6 Explain the format for looping statements.</p> <p>5.7 Explain the use of break and continue statement.</p> <p>5.8 Write programs using branching and looping statements.</p>		10	<p>Create, compile, debug & execute a C program using functions</p> <p>9.1 Calculate the area of a factorial number.</p> <p>9.2 Sort an array of integer numbers.</p> <p>9.3 Calculate factorial of any integer using recursive function.</p> <p>9.4 Maintain the record of performed task.</p>
11	<p>Arrays and Pointers</p> <p>6.1 Define arrays.</p> <p>6.2 Describe the dimension of arrays.</p> <p>6.3 Initialize arrays.</p> <p>6.4 Write programs using arrays.</p>		11	<p>Create, compile, debug & execute a C program using structure and union.</p> <p>10.1 Store and retrieve data using structure.</p> <p>10.2 Store and retrieve data using union.</p> <p>10.3 Maintain the record of performed task.</p>
12	<p>Arrays and Pointers</p> <p>6.5 Define pointer.</p> <p>6.6 Describe the characteristics of pointer.</p> <p>6.7 Explain pointer expressions.</p> <p>6.8 Write programs using pointers.</p> <p>Class Test-2</p>		12	<p>Create, compile, debug & execute a C program using structure and union.</p> <p>10.1 Store and retrieve data using structure.</p> <p>10.2 Store and retrieve data using union.</p> <p>10.3 Maintain the record of performed task.</p>
13	<p>Preprocessor statements in C</p> <p>7.1 Describe the preprocessor directives and their functions.</p> <p>7.2 Define header file and list standard header files.</p> <p>7.3 Describe the process of including header file in routine.</p>		13	<p>Create, compile, debug & execute a C program using files</p> <p>11.1 Store/read information to/from sequential file.</p> <p>11.2 Store/read information to/from random file.</p>

	<p>7.4 Explain the use of macro.</p> <p>7.5 Describe the advantage of macros over functions in programs.</p> <p>7.6 Write the programs using preprocessor statements.</p>		<p>11.3 Convert lower case to upper case and vice versa and store using file.</p> <p>11.4 Maintain the record of performed task.</p>
14	<p>Functions</p> <p>8.1 Explain library function and user defined function.</p> <p>8.2 Create and call a function.</p> <p>8.3 Describe the process of calling functions and returning values from functions in C.</p> <p>8.4 Describe arguments used in functions.</p> <p>8.5 Mention the functions of prototype.</p> <p>8.6 Write programs using library function and user defined function.</p>	14	<p>Create, compile, debug & execute a C program using files</p> <p>11.1 Store/read information to/from sequential file.</p> <p>11.2 Store/read information to/from random file.</p> <p>11.3 Convert lower case to upper case and vice versa and store using file.</p> <p>11.4 Maintain the record of performed task.</p>
15	<p>Structure and Union</p> <p>9.1 Describe structure and union.</p> <p>9.2 Mention the structure and union declaration.</p> <p>9.3 Create and access structure members.</p> <p>9.4 Distinguish between structure and union.</p> <p>9.5 Write simple programs using structure and union.</p> <p>Quiz Test-2</p>	15	REVIEW CLASS
16	<p>File operations</p> <p>10.1 Describe file operations.</p> <p>10.2 State the modes of opening files.</p> <p>10.3 Create and read from a file.</p> <p>10.4 Write and append content to a file.</p> <p>10.5 Describe the functions that support character I/O.</p> <p>10.6 Explain the routines for performing formatted I/O to files</p> <p>10.7 Write the programs for reading, writing and editing files.</p>		Problem Solve Class

RECOMMENDED BOOKS:

- 01 Programming in ANSI C E Balagurusamy Tata McGraw-Hill
- 02 Programming with C Byron Gottfried McGraw Hill India

WEBSITE REFERENCES:

SI Web Link Remarks

- 01 www.youtube.com Search here with topics
- 02 www.google.com Search here with topics
- 03 <https://www.w3schools.com/c> Search directly
- 04 https://www.youtube.com/results?search_query=c+programming+bangla+tutorial

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