FACULTY OF COMPUTER SCIENCE

Master of Computer Application (Integrated) (Sem-I)
In Effect from Academic Year 2023-24

Branch Name:	IMCA
Program Code:	CS301
Course Name:	Fundamentals of Programming-I
Course Code:	1CS3010101P
Pre-requisite Course:	Logical thinking, Basic Mathematics including number systems

Course Objectives:

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

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
				Theory (Marks)		Practical (Marks)		
Lecture (L)	Tutorial (T)	Practical (P)	Credit	University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	Total (Marks)
-	-	3	3			25	25	50

Inductive Practical List :

1. Write a C program to compute the perimeter and area of a rectangle with a height of 7 inches and width of 5 inches.
2. Write a C program to convert specified number of days into years, weeks and days.
3. Write a program that converts Centigrade to Fahrenheit.
4. Write a C program that reads an integer between 1 and 12 and print the month of the year in English
5. Write a C program that accepts two item's weight (floating points' values) and number of purchase (floating points' values) and calculate the average value of the items.
6. Write a C program that accepts three integers and find the maximum of three.
7. Write a C program to read an amount (integer value) and break the amount into smallest possible number of bank notes.
8. Write a C program that reads an integer and check the specified range where it belongs. Print an error message if the number is negative and greater than 80.
9. Write a C program to find and print the square of each one of the even values from 1 to a specified value.
10. Write a C program to find the eligibility of admission for a professional course based on the following criteria:

Marks in Maths >=65 Marks in Phy >=55 Marks in Chem>=50 Total in all three subject >=180

11. Write a C program to calculate the value of S where S = 1 + 3/2 + 5/4 + 7/8.
12. Write a C program that reads an integer and find all its divisor.
13. Write a program in C to display the first n terms of Fibonacci series.
14. Write a program in C to convert a decimal number into binary without using an array.
15. Write a C program to generate a random number.
16. Write a C program to sort the elements of an array.
17. Write a C program to check whether an alphabet is a vowel or consonant.
18. Write a program in C to display the pattern like right angle triangle with a number.

```
1
12
123
1234
```

19. Write a program in C to make such a pattern like a pyramid with numbers increased by 1.

```
1
2 3
4 5 6
7 8 9 10
```

20. Write a program in C to display the pattern like a diamond.

```
*
***
*****
*******
*********
*******
*****
***
*
```

21. Write a program in C to copy the elements of one array into another array.
22. Write a program in C to merge two arrays of same size sorted in decending order.
23. Write a program in C for multiplication of two square Matrices.
24. Write a program in C to find the length of a string without using library function.
25. Write a program in C to compare two string without using string library functions.
26. Write a C program to sort a string array in ascending order.
27. Write a program in C to Concatenate Two Strings Manually.
28. Write a program in C to find the sum of the series 1!/1+2!/2+3!/3+4!/4+5!/5 using the function.
29. Write a program in C to convert decimal number to binary number using the function.
30. Write a program in C to check whether a number is a prime number or not using the function.
31. Write a program in C to get the largest element of an array using the function.
32. Write a program in C to check whether two given strings are an anagram using function.

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Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	To have fundamental knowledge on flowcharts and algorithm	2 Understanding
CLO2	To understand the basic terminology used in computer programming using C	1 Remembering 2 Understanding
CLO3	To Study, analyze and understand logical structure of a computer program, and different construct to develop a program in 'C' language	2 Understanding, 3 Applying, 4 Analyze
CLO4	To write, compile and debug programs in C language	3 Applying 4 Analyze 5 Evaluate 6 Creating
CLO5	To design programs involving decision structures, loops and functions	3 Applying 4 Analyze 5 Evaluate 6 Creating
CLO6	To design programs involving array and string handling function	3 Applying 4 Analyze 5 Evaluate 6 Creating

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Mapping of CLOs with Pos & PSOs

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CLO1	**M**	**L**	**M**		M	H		L	L		L	**M**	**M**	**M**
CLO2	L		M		H		M		H		L		**M**	**M**
CLO3		M	H	L		**L**		**L**	M	L	M	L	**M**	**L**
CLO4		**L**	**H**		M			**L**		L	L		M	
CLO5	M		**H**		M			**L**	**M**		M	L	L	**M**
CLO6	H	**L**	**M**		L		L		**L**		L	M	L	**L**

H: High, M: Medium, L: Low