U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

December 2023 Supplementary Examinations

Programme: B.E. **Semester: I / II**
Branch: Common to all Branches **Duration: 3 hrs.**
Course Code: 22CS1ESICP / 22CS2ESICP **Max Marks: 100**
Course: INTRODUCTION TO C PROGRAMMING

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

				CO	PO	Marks
			UNIT - I			
1	a)		What is an algorithm? What are its characteristics?	CO1	–	**5**
	b)		Discuss the basic data types used in C language? Also give their memory requirements.	CO1	–	**7**
	c)		Explain the type conversion and typecasting in C language with examples.	CO1	–	**8**
			UNIT - II			
2	a)		Discuss the break and continue statements in C language with an example for each of them.	CO1	–	**6**
	b)		Write a program to print prime numbers between 10 and 99. Mention the differences between while loop and do while loop.	CO2	PO1	**8**
	c)		Implement a program in C using switch statement to print the color name, based on color code. If color code in not valid then print "Invalid Code". R->Red, B->Blue, G->Green, O->Orange, Y->Yellow, W->White.	CO3	PO2	**6**
			UNIT - III			
3	a)		What are arrays? Explain the ways of declaring and initializing an array.	CO1	–	**6**
	b)		Develop a program to initialize an integer array with values and check if a given number is present in the array or not. If the number is not found, it will print -1 else it will print the index value of the given number in the array.	CO2	PO1	**7**
	c)		Write a C program to read a matrix A of order MxN and find sum of the elements of each row and each column.	CO2	PO1	**7**
			UNIT - IV			
4	a)		Explain the various parameter passing techniques that are employed in C language.	CO1	–	**6**

		b)	Write a function that implements bubble sort algorithm for sorting an array of n elements in ascending order.	*CO2*	*PO1*	**8**
		c)	Implement the program to find factorial of a number using recursive function.	*CO3*	*PO2*	**6**
			OR			
	5	a)	What is a string? How is a string declared and initialized?	*CO1*	–	**5**
		b)	Implement a program to concatenate two strings without using any built-in string functions.	*CO3*	*PO2*	**8**
		c)	Implement a program to check whether the given string is a palindrome or not.	*CO3*	*PO2*	**7**
			UNIT - V			
	6	a)	Define structures. Mention the advantages and disadvantages.	*CO1*	–	**6**
		b)	Construct an array of structures named student with a name, usn and percentage_of_mark as data members and display the information about a student	*CO3*	*PO2*	**7**
		c)	Write a C program to accept employee details like eno,ename and salary and display the highest paid employee details using structures.	*CO2*	*PO1*	**7**
			OR			
	7	a)	What are pointers? How are they useful? Explain with an example.	*CO1*	–	**6**
		b)	Implement a program to add elements of an array using a pointer to an array.	*CO3*	*PO2*	**7**
		c)	Implement a program to swap the contents of 2 variables using pointers.	*CO2*	*PO1*	**7**

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