

U.S.N.

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

Autonomous Institute Affiliated to VTU

February / March 2025 Semester End Main Examinations**Programme: B.E.****Branch: Common to all branches****Course Code: 18CS1ESCCP / 18CS2ESCCP****Course: C Programming****Semester: I/II****Duration: 3 hrs.****Max Marks: 100**

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.			UNIT - I	CO	PO	Marks
	1	a)	Design an algorithm and flowchart to find area of circle	CO3	PO3	5
		b)	Write a C program and flowchart to check whether a given a year is a leap year or not using conditional operator	CO4	PO1	10
		c)	Complete the code: #int<stdio.h> int main() { float a=3.5; b=-7; c= 'M'; printf("a=.....",a); printf("b=.....",b); printf("c=%c",.....); return 0; }	CO2	PO2	5
			OR			
	2	a)	Describe different types of operators in 'C' with an example.	CO1		06
		b)	Provide an algorithm and flowchart to calculate area of a rectangle.	CO2	PO1	06
		c)	Write a program to find the largest of three numbers using ternary operator.	CO2	PO1	08
			UNIT - II			
	3	a)	Build a C program to determine whether given character is a vowel or not using if-else statement.	CO3	PO3	5
		b)	Write a C program to print prime numbers between the range m and n	CO4	PO3	10
		c)	Complete the code: #include <stdio.h> #include <math.h> int main() {	CO2	PO2	5

		<pre>int a,b,c; float x1,x2; printf("Input the value of a,b & c : "); scanf("%d%d%d",.....); d=.....; if(d==0) { printf("Both roots are equal.\n"); x1=-.....; x2=x1; printf("First Root Root1= %f\n",x1); printf("Second Root Root2= %f\n",x2); } else if(d>0) { printf("Both roots are real and diff-2\n"); x1=.....; x2=.....; printf("First Root Root1= %f\n",x1); printf("Second Root root2= %f\n",x2); } else printf("Root are imaginary;\nNo Solution. \n"); }</pre>			
		OR			
4	a)	Write a C program to print sum of digits of a given number.	CO3	PO3	5
	b)	Write a C program to convert binary number into decimal number.	CO4	PO3	10
	c)	Predict the output the following codes” i. CODE 1 <pre>int main() { int i; for(i = 1; i < 10 ; i++) { if(i==5) { break; } printf("Value of i = %d\n", i); } return 0; }</pre> ii. CODE 2 <pre>int main() { int i; for(i = 1; i < 10 ; i++) { if(i==5) { continue; } printf("Value of i = %d\n", i); } return 0; }</pre>	CO2	PO2	5
		UNIT - III			
5	a)	Write a C program to find position of an element in an unsorted array.	CO3	PO3	5

	b)	Write a C program to swap two numbers using call by reference method.	CO4	PO3	10
	c)	Predict the expected output for the following program: <pre>#include <stdio.h> int main() { int a[10][10], b[10][10], r, c, i, j; printf("Enter rows and columns: "); scanf("%d %d", &r, &c); printf("\nEnter matrix elements:\n"); for (i = 0; i < r; ++i) for (j = 0; j < c; ++j) { printf("Enter element a[%d][%d]: ", i + 1, j + 1); scanf("%d", &a[i][j]); } printf("\nEnter matrix: \n"); for (i = 0; i < r; ++i) for (j = 0; j < c; ++j) { printf("%d ", a[i][j]); if (j == c - 1) printf("\n"); } for (i = 0; i < r; ++i) for (j = 0; j < c; ++j) { b[j][i] = a[i][j]; } }</pre>	CO2	PO2	5
		OR			
6	a)	Write a C program to add two matrices.	CO3	PO3	5
	b)	Write a C program using functions to find sum of the series: $1!/1 + 2!/2 + 3!/3 + 4!/4 + 5!/5$	CO4	PO3	10
	c)	Complete the following code. The program inserts an element in an array. <pre>#include <stdio.h> int main() { int array[100], position, c, n, value; printf("Enter number of elements in array\n"); scanf("%d", &n); printf("Enter %d elements\n", n); for (c = 0; c < n; c++) scanf("%d",); printf("Enter the location where you wish to insert an element\n"); scanf("%d", &position); printf("Enter the value to insert\n"); scanf("%d", &value); for (.....;; c--) = array[c]; }</pre>	CO2	PO2	5

		<pre>= value; printf("Resultant array is\n"); for (c = 0; c <= n; c++) printf("%d\n", array[c]); return 0; } </pre>			
		UNIT - IV			
7	a)	Write a C program to print string in reverse order.	CO3	PO3	10
	b)	Write a C program to print name, roll number of student, street name, house number and state number using nested structures.	CO4	PO3	10
		OR			
8	a)	Write a program to read and print employee details like Employee id, Employee Name, Date of Joining, Salary using Nested Structures.	CO4	PO3	10
	b)	Write a C program to concatenate two strings and find the length of the concatenated string.	CO1		10
		UNIT - V			
9	a)	Write a program in C to find the factorial of a given number using pointers.	CO4	PO3	10
	b)	Write a program in C to create and store information in a text file.	CO3	PO3	10
		OR			
10	a)	Write a C program to read and display the contents of a file "EXAM.TXT"	CO4	PO3	06
	b)	Define a pointer. Write the syntax for declaring a pointer. Discuss any three applications of the pointers.	CO1		06
	c)	Write a C program to perform addition operation on two integers using pointers.	CO2	PO1	08
