U.S.N.										

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

Autonomous Institute Affiliated to VTU

April 2025 Semester End Make-Up Examinations

Programme: B.E. **Semester: I**

Branch: Common to all Branches **Duration: 3 hrs.**

Course Code: 22CS1ESPOP **Max Marks: 100**

Course: Principles of Programming in C

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)		Write an algorithm and draw flowchart to find area of a rectangle.	*CO1*	*PO1*	**5**
	b)		Define the following with example. i) token ii) keywords iii) identifier iv) variable v) constants	*CO1*	*PO1*	**10**

	c)		Complete the code:
			#include<stdio.h>
			int ……( ){
			char a = ‘A’;
			…….x=30, y=20, result;
			……...=x * y + 2;
			printf(“Character = ……”,a);
			printf (“Result = %d”,…….);
			……. 0;
			}
				CO2	*PO2*	**5**

			OR			
2	a)		Explain the different types of operators in C with an example.	*CO1*	*PO1*	**5**
	b)		Write a program to calculate the bill amount for an item given its quantity sold, and price of each item.	*CO3*	*PO3*	**10**
	c)		Evaluate the following expressions i. X = 10+2>6&&2||17&&11-2<=5 ii. Y = 10!=10||5<4&&8	*CO2*	*PO2*	**5**

			UNIT - II			
	3	a)	Differentiate between while and do-while loop with an example.	*CO1*	*PO1*	**6**
		b)	. Write a C program to calculate all possible roots of quadratic equation.	*CO3*	*PO3*	**8**
		c)	Write a C program to find the Factorial of a given number using for loop.	*CO3*	*PO3*	**6**
			OR			

	4	a)	Predict the output of the following codes:
			i.)
			`#include<stdio.h>`
			`int main( )`
			`{`
			`int i;`
			`for( i=1; i<=10; i++)`
			`{`
			`if( i % 4 == 0)`
			`break;`
			`printf("%d\n",(i%4));`
			`}`
			`printf("%d",i);`
			`return 0;`
			`}`
			ii.)
			`#include<stdio.h>`
			`int main( )`
			`{`
			`int x=1,y=2, z=3;`
			`if( x<y)`
			`printf("One is less than two\n");`
			`else if(x==1)`
			`printf("One is equal to 1\n");`
			`else`
			`printf("three = %d", z);`
			`return 0;`
			`}`
				CO2	*PO2*	**6**

		b)	Write a flowchart and a C program to take input of 5 subject, find total of all subjects and calculate the percentage.	*CO3*	*PO3*	**8**
		c)	Explain the switch statement with syntax and suitable example.	*CO1*	*PO1*	**6**
			UNIT - III			
	5	a)	Explain the declaring and initializing of 2-D arrays.	*CO1*	*PO1*	**4**
		b)	Develop a C program to find the transpose of 3X3 Matrix.	*CO3*	*PO3*	**8**
		c)	Write a C program to search an element using binary search assuming a sorted input.	*CO3*	*3*	**8**
			OR			
	6	a)	Summarize the different parameter passing mechanisms in function with suitable examples.	*CO1*	*1*	**10**
		b)	Develop a C program to insert a number at a given location in an array. Write the expected output.	*CO3*	*3*	**10**
			UNIT - IV			
	7	a)	Write a C program using structures to read, write and compute the average salary for a department of N employees. (Consider nested structure for DOB).	*CO3*	*3*	**10**

		b)	Explain structure declaration, initialization and member access using suitable programming example.	*CO1*	*1*	**5**
		c)	Discuss the different ways of reading and printing strings.	*CO1*	*1*	**5**
			OR			
	8	a)	Write a C program using array of structures that stores information of 5 students and prints it.	*CO3*	*PO3*	**10**
		b)	Discuss any 5 string manipulation functions with programming example.	*CO1*	*PO1*	**10**
			UNIT - V			
	9	a)	Write a C program to perform multiplication on two integers using pointers.	*CO3*	*PO3*	**6**

		b)	Predict the output of the following C code:
			# include <stdio.h>
			void fun(int *ptr)
			{
			*ptr = 50;
			}
			int main()
			{
			int y = 20;
			fun(&y);
			printf("%d", y);
			return 0;
			}
				CO1	*PO1*	**6**

		c)	Illustrate the use of the following file processing functions with an example. i) fgets() ii) fprintf() iii) fopen() iv) fclose()	*CO2*	*PO2*	**8**
			OR			
	10	a)	Write a program to find sum and average of n numbers from m to n using pointers.	*PO3*	*CO3*	**6**
		b)	Write a program to create and write into a file.	*CO3*	*PO3*	**6**

		c)	Define a pointer. Write the syntax for declaring a pointer.
			Predict the output of the following:
			#include <stdio.h>
			int main()
			{
			int i=10;
			int *ptr;
			ptr=&i;
				CO2	*PO2*	**8**

			printf(" VALUE OF i =%d\n",i);
			printf("VALUE OF ptr=%d\n",ptr);
			printf("VALUE OF &i= %d\n",&i);
			printf("VALUE OF *ptr = %d\n",*ptr);
			printf("VALUE of *(&i)= %d\n",*(&i));
			printf("VALUE OF &ptr =%d\n",&ptr);
			return 0;
			}			

******