Basavarajeswari Group of Institutions

2022 SCHEME

BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

USN | | | | | | | | | | |

Course Code **22POP13/23**

First / Second Semester B.E. Degree Summer Semester Examinations, September/October 2025

PRINCIPLES OF PROGRAMMING USING C

Duration: 3 hrs **Max. Marks: 100**

Note: ***1. Answer any* FIVE *full questions, choosing* ONE *full question from each module.***
2. Missing data, if any, may be suitably assumed

Q. No		*Question*	*Marks*	*(RBTL:CO:PI)*
		Module-1		
1.	**a.**	Define computer. Describe its features.	**06**	**(2 :1 : 2.6.2)**
	b.	Interpret block diagram of computer and label its parts.	**06**	**(3 :1 : 2.6.2)**
	c.	Write an algorithm and draw flow chart to add two numbers.	**08**	**(2 :1 : 2.6.2)**
		(OR)		
2.	**a.**	Discuss the rules for naming a variable with suitable examples.	**06**	**(3 :1 : 2.6.2)**
	b.	Explain the steps involved in compiling and executing a C program.	**06**	**(3 :1 : 2.6.2)**
	c.	Explain the basic structure of C program with example.	**08**	**(3 :1 : 2.6.2)**
		Module-2		
3.	**a.**	Write a C program to find the largest of two numbers using ternary operator.	**06**	**(2 :2 : 1.6.1)**
	b.	Explain the purpose of arithmetic, relational, and assignment operators in C with suitable examples.	**06**	**(3 :2 : 1.7.1)**
	c.	Define precedence and associativity. Apply this concept to solve: (i) $2*\left(\left(i/3\right)+4*\left(j-2\right)\right)$ where i=8 and j=5 (ii) a & & b ll c & & $\left(!b\right)$ where a=2; b=4 and c=3	**08**	**(3 :2 : 2.8.1)**
		(OR)		
4.	**a.**	Explain implicit and explicit type conversion with suitable example.	**06**	**(2 :2 : 1.6.1)**
	b.	Apply nested loop concept to print the following pattern on to the screen: * * * * * * * * * * * * * * *	**06**	**(3 :2 : 1.7.1)**
	c.	What is meant by looping statements? Explain the purpose of loops in C programming.	**08**	**(3 :2 : 2.8.1)**
		Module-3		
5.	**a.**	Write a program to sort the numbers using bubble sort.	**06**	**(3 :3 : 1.6.1)**
	b.	Implement Binary search on an array of 'n' numbers using 1D Array.	**06**	**(3 :3 : 1.7.1)**
	c.	Define array. Explain the declaration and initialization of single dimensional array with an example.	**08**	**(3 :3 : 2.8.1)**

Note: (**RBTL - Revised Bloom's Taxonomy Level: CO - Course Outcome: PI - Performance Indicator)**

(OR)

6.	**a.**	Define recursion. Write a C program to find factorial of a number using recursion.	**06**	**(3 :3 : 1.6.1)**
	b.	Discuss parameter passing techniques with suitable example.	**06**	**(3 :3 : 1.7.1)**
	c.	Interpret function declaration, definition and call with syntax and example.	**08**	**(3 :3 : 2.8.1)**

Module-4

7.	**a.**	Define string. Explain the syntax for its declaration and initialization with example.	**06**	**(2 :3 : 3.6.2)**
	b.	Discuss different character manipulation functions with example.	**06**	**(3 :3 : 3.6.2)**
	c.	Explain any four string manipulation functions with an example.	**08**	**(2 :3 : 2.6.2)**

(OR)

8.	**a.**	Develop a C program using pointers to compute the sum, mean and standard deviation of all elements stored in an array of N real numbers.	**06**	**(2 :3 : 3.6.2)**
	b.	Write a C program to add two numbers using pointers.	**06**	**(3 :3 : 3.6.2)**
	c.	Write a C program to perform following operations without using in-built functions: (i) Find the length of a string (ii) To copy the contents of string1 to string2.	**08**	**(2 :3 : 2.6.2)**

Module-5

9.	**a.**	Explain union declaration and initialization with syntax and example.	**06**	**(3 :4 : 2.6.2)**
	b.	Identify similarities and differences between structure and union.	**06**	**(3 :4 : 2.6.4)**
	c.	What is a structure? Describe the syntax for declaring and initializing a structure in C with a suitable program.	**08**	**(3 :4 : 2.5.1)**

(OR)

10.	**a.**	Write a 'C' program to copy a text file to another, read both the input file name and target file name.	**06**	**(3 :4 : 2.6.2)**
	b.	Explain at least four file handling operations available in C language giving their syntax.	**06**	**(3 :4 : 2.6.4)**
	c.	Write a C program to declare a structure, read marks of N students, compute the average, and display students scoring above and below the average.	**08**	**(3 :4 : 2.5.1)**

** ** **

Note: (**RBTL - Revised Bloom's Taxonomy Level: CO - Course Outcome: PI - Performance Indicator)**