Internal Assessment Question Paper – 1
Ramaiah Institute of Technology
(Autonomous Institute, Affiliated to VTU)
Department of Computer Science and Engineering

Programme: B.E | **Term: Nov-March 2023**
Course : Principles of Programming Using C | **Course Code : PPC18**
CIE: Test 1 | **SEM: 1** | **Section: A to J**
Max Marks: 30 | **Time: 1Hr** | **Portions for Test: L1-15**
Date: 20/01/2023

Instructions to Candidates:

1. Answer **two** full questions. **Question one is compulsory**
2. Each Question carries **15Marks**.
3. Mobiles, smart watches or any electronic gadgets are strictly banned.

Sl#	Question	Marks	Bloom's Level	CO Mapping

1 a)	**1. Which of the following array initialization statements is valid?**
	a. int array{} = {1,2,3,4};
	b. int array[] = [1,2,3,4];
	c. int array[] = {1,2,3,4};
	d. int array{4} = [1,2,3,4];
	e. int array[4] = [1,2,3,4];
	2. Evaluate the following expressions to true or false.
	a. !(3+3>=6)
	b. 1+6==7||3+2==1
	c. 1>5||6<50&&2<5
	d. 14!=55&&!(13<29)||31>52
	3. What would be printed from each of the following segments? Compare and Contrast your answers.
	`x=12; while(x=7) { printf("%d\n", x); x--; }`
	`for(int x=12; x>7; x--) printf("%d\n",x);`
	`x=12; do { printf("%d\n",x); x--; } while(x>7);`
	4. If originally x=4, y=0 and z=2, what is the value of x, y and z after executing the following code?
	`if (z == 0 || x && !y)`
	`if (!z)`
	`y=1;`
	`else`
	`x=2;`
		01M
		02M
		02M
		01M
			L3	CO2,CO3

b)	With a neat diagram, Explain the structure of C Program.	04M	L2	CO1
c)	Write a C program to read the name of the user, number of units consumed and print out the charges. **An electricity board charges the following rates for the use of electricity:** • For the first 200 units 80 paise per unit • For the next 100 units 90 paise per unit • Beyond 300 units Rs 1 per unit. Note: 1. All users are charged a minimum of Rs. 100 as meter charge. 2. If the total amount is more than Rs 400, then an additional surcharge of 15% of total amount is charged.	05M	L3	CO2

2 a)	Discuss how **one dimensional array** is declared and initialized with suitable example.	04M	L2	CO3
b)	Write a C program to check whether a given number is palindrome or not **using while loop.**	05M	L3	CO2
c)	Explain the syntax of a **switch statement**. Write a C program to perform arithmetic operations using switch statement.	06M	L3	CO2
3 a)	**Define the following terms in Computer Systems:** 1. System Software and Application Software 2. Operating System 3. Pseudocode 4. Distributed Computing 5. System Development Life Cycle.	05M	L1	CO1
b)	Write a C program to calculate the factorial of a number **using for loop**	05M	L3	CO2
c)	Write a C program to read "N" integer numbers into an array and sort them in ascending order using **bubble sorting technique**	05M	L3	CO3

Course Outcomes meant to be assessed by the IA Test: CO1, CO2 & CO3

- CO1: Identify the basic elements of Computing Systems and C Programming Constructs.
- CO2: Demonstrate the use of Operators & Expressions, Decision Making and Looping Statements.
- CO3: Explore Arrays and User-Defined Functions in Implementing Solutions to Real world Problems.