NAGARJUNA COLLEGE OF ENGINEERING AND TECHNOLOGY
Department of Computer Science & Engineering

Even Semester 2023-24
Internal Assessment Test – I

Course Name: Principles of Programming using C | **Course Code:** 23POP23 | **Semester:** II

Date: 29/04/2024 | **Time:** 9:30 am to 10:30 am | **Max. Marks:**25

[Note: Answer any THREE full questions as indicated below]

Sl. No		QUESTIONS	COs	RBT Levels	Marks
1.	a)	Define an identifier. Explain the rules to be followed while declaring a variable.	CO1	L2	04M
	b)	Define an algorithm. Explain the characteristics of an algorithm with an example.	CO1	L2	06M
		OR			

2.	a)	Interpret the values return by printf() and scanf() in the given below statements.
		i. printf("\n results : %4d /t %X \t %#X",234,234,234);
		ii. printf("\n the number is : %07d", 5647);
		iii. scanf("%f %d %c",&a,&b,&c);
		INPUT: 12.56 24 C
		iv. scanf("%d %f %c",&a,&b,&c);
		INPUT: 23 HEN 12.414
			CO1	L2	04M

	b)	Explain the basic structure of c program with an example.	CO1	L2	06M
3.	a)	Explain goto statement with syntax and example program.	CO2	L2	04M
	b)	List the different types of conditional statements. Explain if else and nested if with syntax and examples.	CO2	L2	06M
		OR			
4.	a)	Compare while and do-while loop and list the differences along with syntax and example.	CO2	L2	04M
	b)	Explain switch statement with an example program.	CO2	L2	06M
5.		Write a program to test whether a number entered is positive, negative, or equal to zero.	CO2	L3	05M

Nagarjuna College of Engineering & Technology

(Autonomous Institute Affiliated to VTU)

First/Second Semester BE Degree SE Examination, July- 2024

Principles of Programming using C

Time: 3Hrs. Max. Marks: 100

Note: Answer any one full questions from each module

		COs	M	BL
	Module - 1			
1a	Illustrate the term flowchart with example and explain symbols used in flowchart.	CO1	6	L2
b	Explain program paradigm in C.	CO1	6	L2
c	Discuss variables and constants. Classify the types of constants allowed in c.	CO1	8	L2
	OR			
2a	Define an algorithm. Write an algorithm to find sum of n numbers.	CO1	4	L2
b	Explain basic structure of c program with an example.	CO1	8	L2
c	Illustrate the concept of C tokens. Explain any 3 tokens in C language with suitable example.	CO1	8	L2
	Module - 2			
3a	Explain Standard input and output functions with suitable example.	CO1	6	L2

b	Identfy the values return by printf() in the given below statements.
	i. printf("\n results : %5d /t%X \t %#X",234,234,234);
	ii. printf("\n the number is : %06d", 1234);
	iii. char str1[]="pot";
	printf("\n | %-6s|",str1);
	iv. char str2[]="students";
	printf("\n | %.4s|",str2);
		CO2	6	L2

c	Write and Explain c program to check the given character is lowercase or uppercase or special character.	CO2	8	L2
	OR			
4a	Explain briefly about all data types supported by c language with suitable example for each.	CO1	8	L2
b	List storage classes. Explain storage class with the suitable example program.	CO1	8	L2
c	Explain following terms in C i. Comments lines ii. Escape sequences	CO1	4	L2
	Module - 3			
5a	Develop a simple calculator program in c language to do simple operations like addition, subtraction, multiplication and division.	CO2	8	L3
b	Explain with syntax and example if-else statement , if-else-if statement, nested if statements in c programming.	CO1	8	L2
c	Explain how working of while is different from do-while.	CO1	4	L2
	OR			
6a	Develop a program that takes 3 co-efficient a, b & c of quadratic equation: $ax^2 + bx + c$ as input and compute all possible roots and print them with appropriate messages.	CO3	8	L3
b	Explain switch statement with syntax and example.	CO1	6	L2
c	Explain unconditional statements break, continue, goto with examples.	CO1	6	L2
	Module - 4			
7a	Explain user defined function. Explain function declaration, definition and function call with example.	CO1	8	L2

b	Develop a C program to generate pascal's triangle.	CO3	4	L3
c	Apply suitable sorting technique to sort set of N numbers.	CO3	8	L3

OR

8a	Explain the concepts of array in C Programming? Explain declaration and initialization of one dimensional array and 2D array. along with that list out the applications of an array.	CO1	6	L2
b	Explain recursive function. Write a C program to find factorial of n using recursion technique.	CO2	6	L2
c	Develop a program to search for a suitable element in an array using binary search technique.	CO2	8	L3

Module - 5

9a	Write function to implement string operations such as compare, concatenate, string length by using the parameter passing techniques.	CO2	8	L2
b	Illustrate the given problem by reading a string and check whether that string is palindrome or not.	CO3	4	L2
c	Explain the different ways of passing structures to functions with example	CO2	8	L2

OR

10a	Define pointer. Show how pointer variable is defined and initialized with an example	CO2	6	L2
b	Explain the declaration and initialization of unions with example.	CO1	6	L2
c	Describe the functions to be used for reading data from files. Design a C program to read some text from the keyboard and store it in a file.	CO2	8	L2