Internal Assessment (Assignment)

Course Code: 23OMC103 **Last Date of Submission:** 04-Dec-2023

Course Title: Programming and Problem-Solving Laboratory **Assignment Marks**: 30

Assignment No.: 1

Note:

1. The assignment has two parts: **A** and **B**.
2. Part A has ten MCQs carrying one mark each. Answer **ALL** ten MCQs.
3. Part B has eight descriptive questions carrying four marks each. Attempt **any FIVE** questions out of eight.

Part A **(10 × 1 = 10 Marks)**

Answer **all questions MCQ 1** to **MCQ 10**

MCQ No.	Question	Course Outcome

1	What is the output of the following program?
	`#include <stdio.h>`
	`int main()`
	`{`
	`  int j = 2;`
	`  printf("%d", (++j)++);`
	`  return 0;`
	`}`
		CO-2

Answer Choices:	a. 4 b. Compilation error c. Run-time error d. 8	
2	In C, by default parameters are passed to function using------	CO-1
Answer Choices:	a. Call by value b. Call by reference c. Using pointers d. Using function call	
3	Which of the following is not a data type in C?	CO-1
Answer Choices:	a. int b. real c. float d. double	

4	What will be placed instead of ? in the following C program to print **Home**?
	`#include <stdio.h>`
	`int main()`
		CO-2

	{
	char name[] = "WelcomeHome";
	printf("%s", ?);
	return 0;
	}	

Answer Choices:	a. name b. name+7 c. Not possible d. name + 4	
5	Structures can be manipulated using ------- operator	CO-1
Answer Choices:	a. Equality Comparison (==) b. Assignment (=) c. None of the above d. Both the above	

6	What will be the output of the following C Program if the input is **Happy Birthday**?
	int main()
	{
	char str[50];
	scanf("%4s", str);
	printf(str);
	return 0;
	}
		CO-3

Answer Keys:	a) Happy b) thday c) Happ d) Birth	

7	What will be the output of the following program? Assume character data type consumes one byte.
	#include<stdio.h>
	int main()
	{
	char str[50] = "Graphic Era University";
	printf ("%d", sizeof(str));
	return 0;
	}
		CO-2

Answer Keys:	a) 50 b) 22 c) 1 d) 3	
8	------- of the following is not a valid keyword in C.	CO-1
Answer Keys:	a) for b) while c) do-while d) switch	
9	The format specifier for double data type is ----------.	CO-1

Answer Keys:	a) %ld b) %f c) %d d) %double	

10	What will be the output of the following program?
	`#include<stdio.h>`
	`int main()`
	`{`
	`char str[50] = "Goodmorning";`
	`printf ("%d", sizeof(str));`
	`printf(/*"Hello World"*/ "How are you?");`
	`return 0;`
	`}`
		CO-2

Answer Key	a) `50` b) `50How are you?` c) Compiler Error d) `How are you?`	

Part B **(5 × 4 = 20 Marks)**

Attempt **ANY FIVE** questions from Q 1 to Q 8.

Q No.	Question	Course Outcome
1	Compare structures and unions using suitable examples.	CO-1
2	Develop a C program that reads a person's age and name. Print the name of a person as many times as his/her age. Use for, while, or do-while loop.	CO-2
3	Develop a C Program to read the price and quantity of electronic items in a shop. Calculate the cost of each item as quantity X price items as an input. Develop another C function to calculate the discount according to the following rules: • For a total of less than Rs.1000, the discount is 5%. • For a total greater than Rs.1000 but less than Rs.5000, the discount is 10%. • For a total greater than Rs.5000, the discount is 15%.	CO-3
4	Demonstrate a C program that reads a string. Check whether there are three consecutive 'a'. If there are three consecutive 'a', then print YES else print NO. Input: Maharaja Output: NO Input: Bazaar Output: YES	CO-1
5	Develop a C Program to check whether the entered number is an Armstrong number. Armstrong number is a number where the sum of the cube of each digit is the same as the original number as given below. $0= 0^3 + 0^3$ $1= 1^3 + 1^3$ $153= 1^3 + 5^3 + 3^3$ $370= 3^3 + 7^3 + 0^3$	CO-1

6	Develop a C program to compute the distance between the points (x1, y1) and (x2, y2)	CO-1
7	Develop a C program to read and print numbers in an array using pointers.	CO-1
8	Develop a C Program that reads the contents of two files namely *one.dat* and *two.dat*. Store 50 numbers in each file. Merge both the files and store the numbers in a sorted form in a new file with the name *third.dat*.	CO-1

Course Outcomes:

CO-1. Develop an algorithm, draw a flowchart, and write a 'C' program to solve a given problem. [L-3]

CO-2. Make use of online GDB 'C' Debugger/Compiler for programming, debugging, and executing the programs. [L-2]

CO-3. Demonstrate the use of expressions, decision structures, loops, functions, recursive functions, arrays, strings, structures, and pointers in problem-solving.[L-3]

CO-4. Document the conclusion and observations made from the implementation.[L-3]