COLLEGE OF ENGINEERING AND TECHNOLOGY, SRMIST
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

CYCLE TEST – I
Academic Year: 2022-2023 (ODD Semester)

Program offered: B.Tech (All Branches)   **Year / Sem: I / I**
Max. Marks: 25   **Duration: 50 minutes**

Course Code and Title: 21CSS101J: Programming for Problem Solving

Course Learning Rationale (CLR):

CLR-1: Think and evolve with a logic to construct an algorithm and pseudocode that can be converted into a program.

Course Learning Outcomes (CLO):

CLO-1: To solve problems through computer programming. Express the basic data types and variables in C

Part A (10* 1 = 10 Marks)

Sl.No	Question	CO	PO	BL	Marks	PI CODE
1	Which of the following is not a valid C variable name? a) int age; b) float salary; c) char ch; d) int $main; **Answer: D**	1	1	1	1	1.6.1

2	What is the output of the following code snippet?
	`#include <stdio.h>`
	`int main()`
	`{`
	`float s; double a; char b;`
	`printf("%d", sizeof(s)+sizeof(a)*sizeof(b));`
	`return 0;`
	`}`
	a) 14
	b) 13
	c) 12
	d) Compilation Error
	Answer: C
		1	2	1	1	2.5.2

3	Choose the correct answer.
	
	``c
	#include <stdio.h>
	  int main()
	  {
	    int value = 350;
	    int value = 892;
	    printf("SRMIST!%d",value);
	    return 0;
	  }
	``
	    a) SRMIST!350
	    b) Redefinition of value
	    c) SRMIST!892
	    d) SRMIST! Followed by a junk value.
	
	Answer: B [Since the value is already defined. Redefining it results in an error]
		1	2	1	1	2.5.2

4	```c
	#include <stdio.h>
	int main()
	{
	 int x, y = 5, z = 5;
	 x = y == z;
	 printf("%d", x);
	 getchar();
	 return 0;
	}
	``
	  a) 0
	  b) 1
	  c) 5
	  d) Compile error
	
	Answer: B
		1	2	1	1	2.5.2

5	After working of the prefix and postfix operators, select all the correct statements for the code given below:
	
	``c
	Void main() {
	int x, y, z, k;
	x = 10; y = -x; z = x++; k = ++x;
	}
	``
	  a) Value of y will be -10 and k will be 12.
		1	2	1	1	2.5.2

	b) Value of z will be 11 c) Value of k will be 10 and k will be 11 d) Value of k will be 11 **Answer: A**					

6	#include \<stdio.h>
	// Assume base address of "GeeksQuiz" to be 2000
	int main()
	{
	  printf(5 + "GeeksQuiz");
	  return 0;
	
	 }
	
	a) GeeksQuiz
	
	b) Quiz
	
	c) 2005
	
	d) Compile time error
	    Answer: B
		1	2	2	1	2.5.2

7.	C is a ___ language a) High Level b) Low Level c) Middle Level d) Machine Level **Answer: C**	1	2	1	1	2.5.2
8.	The equality operator is represented by a) := b) .EQ. c) = d) = = **Answer: D**	1	2	1	1	2.5.2
9.	What will be the output of the expression 11 ^ 5? a) 5 b) 6 c) 11 d) 13 **Answer: D**	1	2	3	1	2.5.2

								1	2	2	1	2.5.2

10.	The operator + in a+=4 means a) a=a+4 b) a+4=a c) a=4 d) a=4+4 **Answer: A**	1	2	2	1	2.5.2

Part B (5* 2 = 10 Marks) Answer all questions

Sl.No	Question	CO	PO	BL	Marks	PI Code

11	```#include <stdio.h>```
	 `int main(){`
	 `char operator = '+';`
	 `int num1 =12;`
	 `int num2 = 10;`
	 `int result = (operator =='+'_____);`
	 // Complete the statement by using ternary operator to get the result = 22, if not result = 2 .
	 `printf("%d", result);`
	 `return 0;`
	 `}`
	
	 Answer: int result = (operator =='+') ? (num1 + num2) : (num1 – num2);
		1	2	3	2	2.6.3

12	**Illustrate the available datatype modifiers in C?** • **Answer:** signed - It is default modifier of int and char data type if no modifier is specified. It says that user can store negative or positive values. • unsigned - It is used on int and char data type. It says that user can store only positive values. • short - It limits user to store small int values and occupies 2 bytes of memory space in every operating system. It can be used only on integer data type. • long - This can be used to increased size of the int or double data types to 2 more bytes.	1	2	2	2	2.6.3
13	Pick the correct one from the following declaration is not supported by C language?	1	2	2	2	2.6.3

a) String str;
b) char *str;
c) float str = 3e2;
d) Both String str; & float str = 3e2;

Answer: A

14	Conclude the output of the following c program?
	
	#include <stdio.h>
	int main()
	{
	 int a=5;
	int b=10;
	int c;
	c=a+b;
	 printf("%i", c);
	return 0;
	}
	 (A) 5
	(B) 10
	 (C) 15
	(D) Compilation error
	
	Answer: (C)
		1	2	3	2	2.6.3

15	Rushanth is playing with a tennikoit ball (Circle) He knows the radius of the ball. Help him to find the area and perimeter of the ball using a C program.
	 Hint:
	    Perimeter of a circle = **2πr**
	    Area of a circle = **πr**
		1	2	2	2	2.6.3

Part C (1 * 5 = 5 Marks)

Sl.No	Question	CO	PO	BL	Marks	PI Code
16	Mithran and Niranjan are two friends. Another friend Muthu is facing some issue to pay his tuition fees. Therefore, Mithran and Niranjan are giving some amount to Muthu to pay the fees. Write a C program to calculate how much amount Muthu is going to be paid. In addition, draw the flow chart for the same.	1	2	3	5	2.6.3
	(OR)					
17	Kumar had taken the loan amount Rs. 30000 before 3 years in the HDFC bank at 2.5% interest. He went to bank for make the payment of his loan. Therefore, could you help him to pay the correct amount by writing a C program to find the simple interest of his	1	2	3	5	2.6.3

loan amount?

Solution:

```c
#include <stdio.h>

void main() {

    float amount, rate, simple_interest;

    int months;

    printf("Provide amount and interest in the format $amount rate%% : ");

    // Read amount and rate using scanf()

    scanf("$%f %f%%", &amount, &rate);

    printf("Enter the period in months : ");

    scanf("%d", &months);

    simple_interest = amount * rate * months / 100 ; // Fill the missing expression to calculate simple interest

    printf("Simple interest : %f\n", simple_interest);

}
```

Course Outcome (CO) and Bloom's level (BL) Coverage in Questions

21CSS101J : Programming for Problem Solving- CT 1
CO-Coverage

100%	
90%	
80%	
70%	
60%	
50%	
40%	
30%	
20%	

21CSS101J: Programming for Problem Solving CT 1
Blooms Level %

BL 1
BL 2

44%

56%