



D - Previous year question paper

Programming For Problem Solving (SRM Institute of Science and Technology)



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**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)
Max. Marks: 25

Year / Sem: I / I
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	<p>Choose the correct answer.</p> <pre>#include <stdio.h> int main() { int value = 350; int value = 892; printf("SRMIST!%d",value); return 0; }</pre> <p>a) SRMIST!350 b) Redefinition of value c) SRMIST!892 d) SRMIST! Followed by a junk value.</p> <p>Answer: B [Since the value is already defined. Redefining it results in an error]</p>	1	2	1	1	2.5.2
4	<pre>#include <stdio.h> int main() { int x, y = 5, z = 5; x = y == z; printf("%d", x); getchar(); return 0; }</pre> <p>a) 0 b) 1 c) 5 d) Compile error</p> <p>Answer: B</p>	1	2	1	1	2.5.2

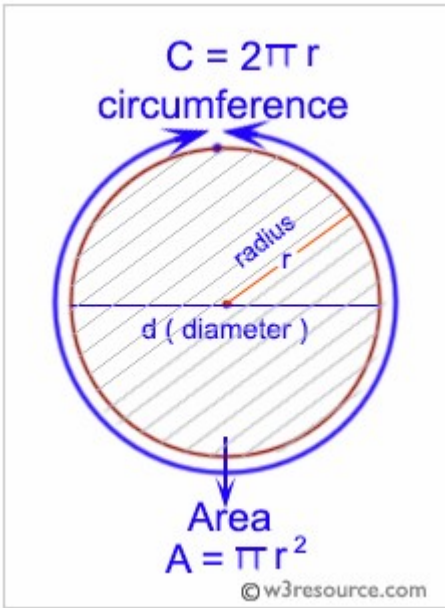
5	<p>After working of the prefix and postfix operators, select all the correct statements for the code given below:</p> <pre>void main() { int x, y, z, k; x = 10; y = -x; z = x++; k = ++x; }</pre> <p>a) Value of y will be -10 and k will be 12. b) Value of z will be 11 c) Value of k will be 10 and k will be 11 d) Value of k will be 11</p> <p>Answer: A</p>	1	2	1	1	2.5.2
6	<pre>#include <stdio.h> // Assume base address of "GeeksQuiz" to be 2000 int main() { printf(5 + "GeeksQuiz"); return 0; }</pre> <p>a) GeeksQuiz b) Quiz c) 2005 d) Compile time error</p> <p>Answer: B</p>	1	2	2	1	2.5.2
7.	<p>C is a ___ language</p> <p>a) High Level b) Low Level c) Middle Level d) Machine Level</p> <p>Answer: C</p>	1	2	1	1	2.5.2
8.	<p>The equality operator is represented by</p> <p>a) := b) .EQ. c) = d) ==</p> <p>Answer: D</p>	1	2	1	1	2.5.2
9.	<p>What will be the output of the expression $11 \wedge 5$?</p> <p>a) 5</p>	1	2	3	1	2.5.2

	b) 6 c) 11 d) 14 Answer: D [XOR: $1 \wedge 1 = 0$, $0 \wedge 0 = 0$, $1 \wedge 0 = 1$ so, 11---→1011 5---→ 0101 ----- 1110 ----- Which is equivalent of 14 in decimal]					
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10.	<p>The operator + in a+=4 means</p> <p>a) a=a+4</p> <p>b) a+4=a</p> <p>c) a=4</p> <p>d) a=4+4</p> <p>Answer: A</p>	1	2	2	1	2.5. 2
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Part B (5* 2 = 10 Marks) Answer all questions

Sl.No	Question	CO	PO	BL	Marks	PI Code
11	<pre>#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; }</pre> <p>Answer: int result = (operator == '+') ? (num1 + num2) : (num1 – num2);</p>	1	2	3	2	2.6.3
12	<p>Illustrate the available datatype modifiers in C?</p> <p>Answer:</p> <ul style="list-style-type: none"> 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	<p>Pick the correct one from the following declaration is not supported by C language?</p> <p>a) String str;</p>	1	2	2	2	2.6.3

	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? <pre>#include <stdio.h> int main() { int a=5; int b=10; int c; c=a+b; printf("%i", c); return 0; }</pre> (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 = $2\pi r$ Area of a circle = πr^2 Answer: Pictorial Presentation:  <p>The diagram shows a circle with a blue outline. A red line segment from the center to the circumference is labeled 'radius' with a small 'r' below it. A blue line segment passing through the center from one side to the other is labeled 'd (diameter)'. A blue arrow along the top curve of the circle is labeled 'C = 2π r' and 'circumference'. A blue arrow points from the text 'Area' and 'A = π r²' to the interior of the circle. The bottom right corner of the diagram has the text '© w3resource.com'.</p>	1	2	2	2	2.6.3

<pre> #include <stdio.h> int main() { int radius; float area, perimeter; radius = 6; perimeter = 2*3.14*radius; printf("Perimeter of the Circle = %f inches\n", perimeter); area = 3.14*radius*radius; printf("Area of the Circle = %f square inches\n", area); return(0); } Output: Perimeter of the Circle = 37.680000 inches Area of the Circle = 113.040001 square inches </pre>					
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Sl.No	Question	CO	PO	BL	Marks	PI Code
16	<p>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.</p> <p>Answer:</p> <pre>#include <stdio.h> int main() { int num1, num2,num3, sum; printf("Enter three integers: "); //Storing user input into variable num1 & num2 scanf("%d%d%d", &num1,&num2,&num3); // Adding two input numbers sum = num1 + num2 + num3; printf("Sum of %d and %d and %d is: %d", num1, num2,num3, sum); return 0; }</pre> <p>Output:</p> <p>Enter three integers: 1 6 9 Sum of 1 and 6 and 9 is: 16</p> <p>Flowchart:</p>	1	2	3	5	2.6.3

