

Shiv Nadar University Chennai

Mid Semester Examinations 2023-2024 Odd

Question Paper

Name of the Program: Common to B.Tech. AI & DS, B.Tech. CSE (Cyber Security) & B.Tech. CSE (IoT)		Semester: I
Course Code & Name: CS1001 PROGRAMMING IN C		
Regulation 2021		
Time: 2 Hours	Answer All Questions	Marks: 50

Q.No.	Questions	Marks	CO	KL
1	a What would be the value of x after the execution of the following statements? $x = 12;$ $x ++;$ $x *= 2;$ $x << 1;$ (a) 24 (b) 26 (c) 52 (d) 50	1	1	2
2	a What would be the output of the following lines of code? $int\ a = 3, b = 5;$ $if(a == b);$ $printf("a, b ");$ $if(a > b)$ $printf("a ");$ $else$ $printf("b ");$ (a) a,b b (b) b (c) a,b a b (d) a,b	1	2	2
3	a What would be the output of the following code? $int\ main()$ { $int\ k, num = 30;$ $k = (num > 5 ? (num <= 10 ? 100 : 200) : 500);$ $printf("%d", num);$ $return\ 0;$ } a. 100 b. 200 c. 30 d. 10	1	2	2
4	a In the expression $y = 10 * x / 2 + z;$ ----- operation will be performed first. (a) Multiplication (b) Division (c) Addition (d) Assignment	1	1	1
5	a if (-25) is a valid C statement. (a) True (b) False	1	2	1

6	a	Write a C program that accepts 4 integers p, q, r, s from the user where q, r and s are positive and p is even. If q is greater than r and s is greater than p and if the sum of r and s is greater than the sum of p and q print "Correct values", otherwise print "Wrong values".	5	2	3
7	a	If a five digit number is input through the keyboard, write a C program to calculate the sum of its digits.	5	1	3
8	a	Write a menu based switch case program for performing arithmetic operations using operators as switch and provide output scenarios using with & without break.	5	2	2
9	a	Write a function with parameter and no return type to find the factorial of a number.	5	3	3
10	a	Write a program to generate all combinations of 1, 2 and 3 using for loop. (Hint: 111, 112, 121, 211, 212, 233, 311, 312, 333)	5	2	3
11	a	What is an entry controlled and exit controlled loop? Explain with syntax and example.	5	2	1
12	a	Write a C program to generate the Hailstone sequence from a number N to 1. Obtain the number N from the user. Hint: A Hailstone sequence can be obtained by following the rules below: <ul style="list-style-type: none"> - If the current number, n, in the sequence is even, the next number is computed as $n/2$. - If the current number, n, in the sequence is odd, the next number is computed as $3n + 1$. E.g.: If $N = 16$, then the Hailstone sequence is 16, 8, 4, 2, 1.	5	2	3
13	a	Sales Tracking System Using Arrays Imagine you're working for a small retail business, and your task is to create a C program to track daily sales of various products. Your program should allow you to: 1. Enter daily sales data for different products (e.g., items sold, quantity, price). 2. Calculate and display the total sales for each product and the overall daily sales. 3. Identify the best-selling product and the least-selling product. 4. Generate a sales report with product-wise and overall sales data. Requirements: 1. Use arrays to store product details, such as names, prices, and quantities sold. 2. Prompt the user to enter the number of products and input product details. 3. Calculate total sales for each product and overall daily sales. 4. Determine the best-selling product (highest sales) and the least-selling product (lowest sales). 5. Generate a sales report displaying product-wise and overall sales data. Output Format: 1. Display a sales report with product names, quantities sold, unit prices, and total sales. 2. Include the best-selling product, least-selling product, and overall daily sales. Solving this problem will demonstrate your ability to use arrays in C to manage and process sales data, which is a common task in retail businesses. It also involves calculating statistics and generating reports, which are essential for tracking sales performance.	10	2	4

KL – Bloom's Taxonomy Levels

(KL1: Remembering, KL2: Understanding, KL3: Applying, KL4: Analyzing, KL5: Evaluating, KL6: Creating)

CO – Course Outcomes
