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Question Paper Code :U1207

B.E./B.Tech. DEGREE EXAMINATION, DEC 2023

First Semester

R21UCS107- PROBLEM SOLVING AND C PROGRAMMING

(Common to CSE,ECE IT,CSBS,AI&DS,CSD,CSE(AIML),IOT,CYBER SECURITY)

(Regulations R2021)

Duration: Three hours

Maximum: 100 Marks

PART A - (5 x 1 = 5 Marks)

1.	Identify the Valid Identifier?			CO1- U
	(a) @@@123	(b) @123	(c)_123\$	(d) Keyword
2.	Select the correct test condition for finding the ODD or EVEN numbers			CO1- U
	(a) (num % 2 = 0)	(b) (num / 2 == 0)		
	(c) (num % 2)	(d) (num % 2 == 0)		
3.	Array elements are always stored in _____ memory location?			CO1- U
	(a)Sequential	(b) Random	(c) Sequential& Random	(d) None of the above
4.	A recursive function in C ____.			CO1- U
	(a) Call itself again and again		(b) Loop over a parameter	
	(c)Return multiple values		(d)None of these	
5.	Union can store _____ number of values at a time			CO1- U
	(a) All its members	(b) Only	(c) 2	(d) Cannot hold value

PART – B (5 x 3= 15 Marks)				
6.	Draw the flow chart to print N natural numbers?			CO2- App
7.	Write a C program for if-else statement.			CO3- App
8.	What is an array? Write the types of an array?			CO1- U
9.	Differentiate Call by value and Call by reference.			CO1- U
10.	Differences between Structure and Union?			CO1- U
PART – C (5 x 16 = 80 Marks)				
11.	(a)	(i) Write a C program to display the Bio data using printf statement.	CO2- App	(8)
		(ii) Write a C program to find the area of the circle using the define keyword for declaration of PI value.	CO2- App	(8)
		Or		
	(b)	(i) Write a C program to get the 2 integers value from the user and print the same value.	CO2- App	(8)
		(ii) Draw a flowchart and Write a C Program to find the simple interest.	CO2- App	(8)
12.	(a)	(i) Write a C program to check whether a given number is even or odd.	CO3- App	(8)
		(ii) Write a C program to check whether a given number is positive or negative.	CO3- App	(8)
		Or		
	(b)	(i) Write a C program to find whether a given year is a leap year or not.	CO3- App	(8)
		(ii) Write a C program to read the age of a candidate and determine whether he is eligible to cast his/her own vote.	CO3- App	(8)
13.	(a)	(i) Write a C program to take 5 values from the user and store them in an array and print the elements stored in the array.	CO4- App	(16)
		Or		
	(b)	(i) Write a C program for Matrix addition using 2D-Array.	CO4- App	(16)
14.	(a)	(i) Write a C program to find the Factorial of a given number using recursion in C.	CO4- App	(8)
		(ii) Write a C program to calculate the area of the square using functions.	CO4- App	(8)
		Or		
	(b)	Write a C program to swap two numbers using pass by value and pass by reference.	CO4- App	(16)

15.	(a)	(i) Create a C programming using Structure called Employee which stores the name, id, basic pay, HRA and DA as members. Find the total pay of the employee.	CO4- App	(16)
		Or		
	(b)	(i) Write a C program to find the largest element in an array using pointers.	CO4- App	(8)
		(ii) Write a C program to print the address of an integer variable and the value stored at that address.	CO4- App	(8)