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School of Computer Science and Engineering
M.Tech -CSE
CSE2010 – Advanced C Programming Lab
WINTER 2020 - 2021

Final Assessment Test
set-1

| Time : 120 Mins | SLOT - **L49+L50** | Max.Marks:50 |

Instructions:

1. **First full up the first page of your answer sheet with help of following table:**

Mark Distribution	
Components	**Marks**
Algorithm: 5+5	
Program1: 15	
Program2: 15	
Output: 5+5	

2. **In last page question number is assigned to the Registration number for the student to solve problem.**
3. **Write aim, algorithm and sample input/output, Time complexity in your answer sheet**
4. **No code required in answer script**
5. **Complete both the programs and At the end of the Session upload answer sheet, your typed code along with the results in**

vtop.vit.ac.in

Question Set	Program
1	a. Write a program to calculate simple and compound interest. b. Write a program to Implement given two university information files "studentname.txt" and "usn.txt" that contains students Name and USN respectively. Write a C program to create a new file called "output.txt" and copy the content of

	files "studentname.txt" and "usn.txt" into output file in the sequence shown below. Display the contents of output file "output.txt" on to the screen. Student Name USN Name 1 USN1 Name 2 USN2 …. …. …. ….
2	a. Write a program to swap values of two variables with and without using third variable. b. Write a program to print the record of the student "Rank wise". Here, a structure is defined which contains the Student Registration number, Student name, student CGPA marks, Student rank. In this problem you have to create a structure, function and pass the structure to the function.
3	a. Write a program to find the largest of three numbers using ternary operators b. Write a C program to get two arrays of integers and pass to the function using pointer and from two arrays of integers output the smallest number in the first array not present in the second one. Example : Input: The size N of the first array 3 The contents of the first array 1 2 3 The size M of the second array 5 The contents of the second array 1 3 4 5 6 Output: Smallest number in first array 2 In case there is no such number, output NO.

4	a. Write a program to find the roots of quadratic equation.
	b. Write a program to maintain the stoke prices during a winter programme, a daily prices fluctuate a lot. One way to identify the general trend is to keep track of the average over the last 2 days. Here, you have to output the average is the sequence of the last 2 entries. For the first number, no average is output. In this problem, you must to use calling a function through function pointer to maintain the stoke prices.
	Example:
	Input : 1 2 3 4 5 0
	Output : 1.5 2.5 3.5 4.5 2.5
5	a. Write a program to input name, marks of 5 subjects of a student and display the name of the student, the total marks scored, percentage scored and the class of result.
	b. Write a C program to create two arrays and find the common values as the third array from the first two array values by removing the duplicates. Finally print all the three arrays. The initial two arrays have to be created by the following instructions. For each array get a positive integer value from the user. Add this integer to the array. To get the next element, if the given input number is even number, divide the value by 2 or if it is an odd value multiply the value by 3 and add 1. Repeat it until the element reaches to the value 1.
6	a. Write a program to check whether the entered year is leap year or not (a year is leap if it is divisible by 4 and divisible by 100 or 400.)
	b. Write a C program to sum the below series up to n terms using recursive function.
	1/GCD(1,1)+10/GCD(10,2)+100/GCD(100,3)+.....

7	a. Write a program to determine whether the input character is capital or small letter, digits or special symbol.

b. Write a C program create a dynamic 1D array1 with n numbers. From array1 create two other dynamic arrays, array2 and array3 with positive and negative integer. |
| **8** | a. Write programs to display each of the following patterns.

$$1$$
$$1\ 2$$
$$1\ 2\ 3$$
$$1\ 2\ 3\ 4$$
$$1\ 2\ 3\ 4\ 5$$

b. Write a C program to print the number is prime or composite using pointers by reading the numbers until the user enters 0. |
| **9** | a. Write a program using while loop to print the structure.
1 0
2 1 0
3 2 1 0
4 3 2 1 0
5 4 3 2 1 0
6 5 4 3 2 1 0
7 6 5 4 3 2 1 0
8 7 6 5 4 3 2 1 0
9 8 7 6 5 4 3 2 1 0

b. Write a C program to delete the vowels in the array and reduce the size of the array. Print the following
i. input string
ii. size of the array
iii. string after removal of vowels
iv. size of the reduced string |
| **10** | a. Write a program to print number in reverse order with a |

difference of 2.

b. Write a C program to dynamically allocate memory for array of 10 elements. Remove the negative elements from the array and reduce the size of the array. Also print the size of the array and its elements before and after removal of negative elements. Deallocate the array memory.

Question Number	Registration Number
1	19MID0003
2	19MID0005
3	19MID0006
4	19MID0010
5	19MID0019
6	19MID0023
7	19MID0024
8	19MID0027
9	19MID0029
10	19MID0030