Roll No. | | | | | | | | |

KONGU ENGINEERING COLLEGE, PERUNDURAI 638 060

EVEN SEMESTER 2018-2019

CONTINUOUS ASSESSMENT TEST II – May 2019

(Regulations 2018)

Programme : B.Tech/B.E Branch : Common to CSE & IT Semester : II	Date : 13.05.2019 Time : 9.30 AM to 12.30 PM
Course Code : 18CSC21 Course Name : Programming and Linear Data Structures	Duration : 3 Hours Max. Marks : 100

PART - A (10×2 = 20 Marks)

ANSWER ALL THE QUESTIONS

1.	List the file opening modes for text files.		CO3	K1
2.	Give the functions to rename and delete a given file.		CO3	K2
3.	How binary file is more secure than text file?		CO3	K2
4.	Distinguish between Macros and Functions in C.		CO3	K2
5.	Define data structure.		CO4	K1
6.	Declare a structure to create a node in a singly linked list.		CO4	K2
7.	Write a C program to display the n^{th} element in the list.		CO4	K3
8.	Compare stack and queue.		CO5	K2
9.	Write an algorithm to check whether the given string is palindrome or not using stack.		CO5	K2
10.	Give the applications of stack and queue.		CO5	K2

PART – B (5 × 12 = 60 Marks)

(ANSWER ALL QUESTIONS)

11. a.	You are given two source files named "input1.txt" and "input2.txt". The first file "input1.txt" consists of register numbers of all the students in a class (arranged in ascending order) and the other file "input2.txt" consists of student's name. Copy the contents of the two source files into a destination file named "output.txt" in the order first register number and then name alternatively until the end of file condiditon is reached. Display the contents present in the file named "output.txt".	(12)	CO3	K3
	(OR)			
11. b.	Read the content from the text file named "input.txt" and write a C program to count the number of lines, number of words, number of alphabets, number of consonants, number of special characters, number of digits from the content present in the file.	(12)	CO3	K3
12. a.i)	Write a C program to define macros for compuitng the area of circle, rectangle and square.	(6)	CO3	K3
ii)	Define macro MIN(a,b,c) for finding the minimum of three numbers. Use the defined macro to find MIN(1,2,3).	(6)	CO3	K3
	(OR)			
12. b.i)	Menu-driven program to perform arithmetic operations using macro.	(6)	CO3	K3
ii)	Create user defined header file and write a C program to find whether the given number is palindrome or not.	(6)	CO3	K3
13 a.	You are given the cutoff mark detail of each student of your class. Use singly linked list for storing cutoff mark of all the students and do the following operations: • Find the student with higest cutoff mark in the class. • Display all the cutoff marks which is greater than 175	(12)	CO4	K3
	(OR)			
13 b.	Create 'n' number of nodes in a singly linked list. Count the number of odd numbers and even numbers in the list and also display the elements present in the list.	(12)	CO4	K3

14	a.	In a book store, the books are arranged one above the another. Identify the suitable data structure and perform the various operations using array such as inserting the book, removing the book, and display all the avialable books.	(12)	CO5	K3
		(OR)			
14	b.	Implement the operations of Queue using array within structure. Write a function to count the number of vowels and consonants present in the queue.	(12)	CO5	K3
15.	a.	Assume an event titled "Quiz" is organized for the students and on the spot registration is done. The students are allowed to register their names in the arrival order and they are allowed to participate in the event as per the registration order. Identify the suitable datastructre and implement the various operations of the data structure using linked list.	(12)	CO5	K3
		(OR)			
15.	b.	Implement the following operations of Stack using linked list: (i) push() to store the new element (ii) pop() to delete the element (iii) isempty() to check whether the stack is empty or not (iv) isfull() to check whether the stack is full or not (v) display() to display the elements present in the stack	(12)	CO5	K3

PART – C (1 × 20 = 20 Marks)

16.	a.	Assume your source file input.txt consists of a set of alphabets and digits. Write a C program to copy the contents of source file "input.txt" into another file named "output.txt" using command line arguments. While copying the alphabets present in the source file "input.txt", should be converted into uppercase and stored into "output.txt". Similarly, the digits present in the source file "input.txt" are added and the sum is to be stored into "output.txt".	(20)	CO3	K3
		(OR)			
16	b.	Write a C program to get the details (such as Name, Roll No, five subjects marks) of N students and find the Total mark and Rank for each student. Write Name, RollNo, Total mark and Rank for each student into a file named "studentdb.txt" using formatted file I/O functions and also display these details.	(20)	CO3	K3

Bloom's Taxonomy Level	Remembering (K1)	Understanding (K2)	Applying (K3)	Analysing (K4)	Evaluating (K5)	Creating (K6)
Percentage	2.2	7.8	90	-	--	-

CSE-D [180-238]

Dis-20Q

Ab-> NIL