KLE Technological University

Creating Value
Leveraging Knowledge

Earlier known as
B. V. B. College of Engineering & Technology

School of Computer Science and Engineering

MODEL QUESTION PAPER		
Course: Problem Solving With DataStructures		
Course Code: 18ECSP102	Semester: II	
Date of Exam:	Duration: 75 mins	
Note: Answer any two full questions.		

Q.No	Questions	Marks
1a	Explain File operations : fopen, fclose , fscanf, fprintf	4
1b	What is static memory allocation and dynamic memory allocation?	6
1c	Blockchain is the new technology in computer science, where it is used to store the 'n' transaction details of users. Shivam is very much interested in implementing blockchain kind of technology using C programming.Transaction details contains: Transaction_ID, sender name, receiver name, amount, time. Please help Shivam to implement the above problem and perform the below operations. i) Display the transaction details of particular Transaction_ID. ii) Display the transaction details of particular user.	10
2a	Create a structure for storing movie information with minimum of 6 fields and show the memory allocation.	4
2b	Vishal owns a cyber café, where he has 'N' number of computers stored in a file. Since Vishal is lazy to write the details of 'N' computers in paper, he stores the details of computers in a file. Please help Vishal to store the details of computers and perform the below operations. Display the details of all computers.	6
2c	KLETU started admission for the 2022 under graduate program. The candidates are selected based on the rank obtained in CET. During the second round of counselling few candidates withdraw and new candidates get added based on their rank. Display the final list of candidates that took admission in KLETU.	10
3a	Write a modular C program to compare contents of two files.	4
3b	A list of persons information is stored in a list in random order according to their age. The police men came and reversed the positions of all people from start till the last person. Ajay is a kid standing there and wants to know what will be the new list persons.	6

3c	There are n people standing in a circle waiting to be executed. The counting out begins at some point in the circle and proceeds around the circle in a fixed direction. In each step, a certain number of people are skipped and the next person is executed. The elimination proceeds around the circle (which is becoming smaller and smaller as the executed people are removed), until only the last person remains, who is given freedom. Given the total number of persons n and a number k which indicates that k-1 persons are skipped and kth person is killed in circle. The task is to choose the place in the initial circle so that you are the last one remaining and so survive. For example, if n = 5 and k = 2, then the safe position is 3. Firstly, the person at position 2 is killed, then person at position 4 is killed, then person at position 1 is killed. Finally, the person at position 5 is killed. So the person at position 3 survives. If n = 7 and k = 3, then the safe position is 4. The persons at positions 3, 6, 2, 7, 5, 1 are killed in order, and person at position 4 survives	10