

Cluster Innovation Centre, University of Delhi, Delhi-110007

Examination	: End Semester Examination – March 2022
Name of the Course	: B.Tech (Information Technology and Mathematical Innovations)
Name of the Paper	: Automating real world through Programs: Programming Fundamentals
Paper Code	: 32861103
Semester	: I
Duration	: 3 Hours
Maximum Marks	: 75

Instructions:

This question paper contains six questions, out of which any four are to be attempted. Each question carries equal marks.

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1. Write a structure to store the name, account number and balance of customers (more than 10) and store their information. Write a function to print the names of all the customers having balance of less than \$200. Write a function to add \$100 in the balance of all the customers having more than \$1000 in their balance and then print the incremented value of their balance.
 2. Demonstrate the implementation of the string concept for the following requirements: Declaration of String, Initialisation of string, passing String to function, and changing some characters of the string.
 3. What are the key features in the C programming language? Explain with examples.
 4. Explain the functionality of iterative statements in C language with examples.
 5. What is file handling? Explain different file functions with examples.
 6. Given an array `arr[]` and an integer `K` where `K` is smaller than the size of the array, the task is to find the `K`th smallest element and `K`th largest element in the given array. It is given that all array elements are distinct. Example for `K`th smallest: Input: `N = 6, arr[] = {7 10 4 3 20 15}`; `K = 3`; Output : 7: Explanation : 3rd smallest element in the given array is 7. Similarly for the largest element.