

TERM-III EXAMINATION – MONSOON 2024

## Computer Programming

CSE: UG1-IC

Duration: 90 Mins (09:15-10:45 AM)

Date: 29-10-2024

Max. Marks: 24

Instructions:

Roll No: 5202410010020

1. All questions are compulsory.
2. Write the answers legibly.
3. This is a closed book exam. No material and electronic devices are allowed.

1	Let there are two files (one.txt & two.txt) with sorted marks in them. Merge these two sorted lists into a single list and write it to the third file (merged.txt). [6 Marks]	
2	<ol style="list-style-type: none"> <li>1. Explain the difference between struct and union.</li> <li>2. Explain how to create a linked list and insert a node at front with proper diagrams and code? For example, the list is: 3, 5, 2, 8, 1, 7.</li> </ol>	[6 Marks]
3	<ol style="list-style-type: none"> <li>a. What do you understand about memory leak, and how can it be prevented?</li> <li>b. Write a program in C to find the largest element using Dynamic Memory Allocation.</li> </ol>	[3 Marks] [3 Marks]
4	<p>a. What is the output of following code</p> <pre>#include &lt;stdio.h&gt; struct product {     int code;     char *name;     double price; }; int main() {     struct product p[] = { {1001, "Laptop", 55000.50},     {1002, "Smartphone", 20000.75}, {1003, "Tablet", 15000.25} };  printf("Code: %d, Name: %s, Price: %.2lf, Price: %.2lf\n",     (*p + 2)).code, p[0].name, p[1].price, p[2].price);     return 0; }</pre> <p>b. Write a C program that:</p> <ol style="list-style-type: none"> <li>1. Accepts a series of command-line arguments (excluding the program name itself).</li> <li>2. Prints the length of the longest argument passed.</li> </ol>	[2 Marks]

3. If no arguments are passed (other than the program name), displays the message: "No arguments Passed"

[4 Marks]

Additionally, provide at least 2 test cases to validate your program. For each test case, include:

- Input (Command-line arguments)
- Expected Output

End \_\_\_\_\_