

**VIT**Vellore Institute of Technology
(Chartered by the University Grants Commission UGC Act, 1956)**School of Computer Science and Engineering****Fall Semester 2023-24****Continuous Assessment Test – II****SLOT: G2+TG2****Programme Name & Branch:** M.Tech (MID and MIC)**Course Name & Code:** Data Structures and Algorithm Analysis & CSI2002**Class Number (s):** VL2023240104093, VL2023240104097**Faculty Name (s):** R.Adaline Suji, N.S. Nithya**Exam Duration:** 90 Min.**Maximum Marks:** 50

Q. No.	Question	Max Marks
1.	Given two linked lists, insert nodes of second list into first list at alternate positions of first list. For example, if first list is 5->7->17->13->11 and second is 12->10->2->4->6, the first list should become 5->12->7->10->17->2->13->4->11->6 and second list should become empty. Write an appropriate pseudocode for the above problem and explain the step-by-step process with example diagram.	10
2.	a) Identify the condition for finding the last node in singly linked list and circular linked list. (3 marks) b) Construct a pseudocode to segregate Even and Odd Nodes in a Linked List. (7 marks)	10
3.	a) Examine the given graph and perform the following <pre>graph TD; F((F)) --> B((B)); F((F)) --> G((G)); B((B)) --> A((A)); B((B)) --> D((D)); G((G)) --> I((I)); D((D)) --> C((C)); D((D)) --> E((E)); I((I)) --> H((H));</pre>	10