

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2025

B.Tech-I Semester (CSE/IT/ECE/CE/BT/BI)

COURSE CODE (CREDITS): 18B11CI211

MAX. MARKS: 15

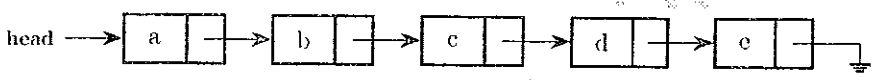
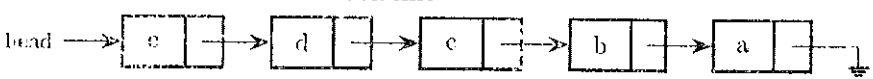
COURSE NAME: Data Structure and Algorithms

COURSE INSTRUCTORS: Mr. Faisal Firdous

MAX. TIME: 1 Hour

Note: (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	CO	Marks
Q1	Consider the problem of reversing a singly linked list. To take an example, given the linked list below,  the reversed linked list should look like  What will be the time complexity of algorithms that solve the above problem is $O(i)$ space?	CO2	1
Q2	Write a program to insert an element in an array at the end if Array is Full. Also mention the time complexity.	CO1	[3+1]
Q3	Convert the infix expression into postfix and then evaluate the postfix expression. $(3 + 6) * (2 - 4) + 7^2 - 4$.	CO3	[2+2]
Q4	Write a program to insert the element at the end of a circular singly linked list and also mention the time complexity.	CO2	[2+1]
Q5	Find the time and space complexity of the given program <pre>void multiplyMatrices(int first[MAX][MAX], int second[MAX][MAX], int result[MAX][MAX], int row1, int col1, int row2, int col2) { for (int i = 0; i < row1; i++) { for (int j = 0; j < col2; j++) { result[i][j] = 0; for (int k = 0; k < col1; k++) { result[i][j] += first[i][k] * second[k][j]; } } } }</pre>	CO1	[2+1]