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Daffodil International University

Daffodil International University
Department of Software Engineering
Faculty of Science & Information Technology
Quiz: 3 Semester: Summer 2026 Section: H
Course Code: SE-131 Course Title: Data Structure

Time: 30 Minutes **Marks: 15**

An Operating System manages active system processes using specialized linked list variations to allocate CPU time slices and maintain execution order. Initially, three processes P_1, P_2, and P_3 are stored at memory addresses 100, 200, and 300 respectively. The system tracks process metadata using different linked list configurations depending on performance and traversal needs.

1. Construct an initial Circular Linked List using a Dummy Node with Flag to store the processes. After that:
   I. Insert process P_0 at the beginning.
   II. Insert process P_4 at the 3rd position. **(4 marks)**

2. Take the updated circular linked list from Question 1 and convert it into a standard Doubly Linked List. **(3 marks)**

3. From question 2 take the updated linked list and convert it into a singly Linked List, after that:
   I. Insert P_5 at 4th position
   II. Delete node at position 3rd. **(4 marks)**

4. Write the basic part of the C code to delete the last process from the updated singly linked list. **(4 marks)**