

Roll No.

Paper Code: TCS 302

Mid Semester Examination 2021
B.Tech (CSE) III Semester

Data Structure with 'C' language.

Time: 1:30 Hrs

MM: 50

INSTRUCTIONS TO STUDENTS

Note :

- (i) This question paper contains five questions with alternative choice.
- (ii) All questions are compulsory.
- (iii) Each question carries two parts a or b. Attempt either parts a or b of each question.
- (iv) Total marks assigned to each question are ten.

Q1.

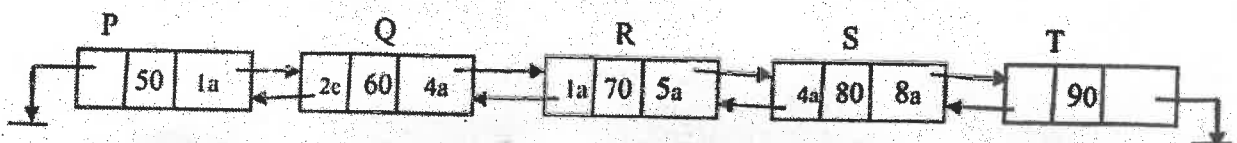
A) Assume that we have a singly linked list with a pointer P at first node. Write C function to delete duplicate nodes in the linked list. (10)

OR

B) Assume that we have a single linked list with a pointer P at first node. Write a C function to input a number and search it in the linked list if number is found update the link list by deleting that node otherwise print number not found. (10)

Q2.

A) Assume that we have a double linked list, with five nodes, nodes are pointed by the following pointers P, Q, R, S and T.



Write steps to delete a node pointed by pointer R.

(10)

OR

B) Assume that we have a single linked list and a key, first node of the linked list is pointed by a pointer Start. Write a C function to print the node having information lesser than key value in the linked list. (10)

Q3.

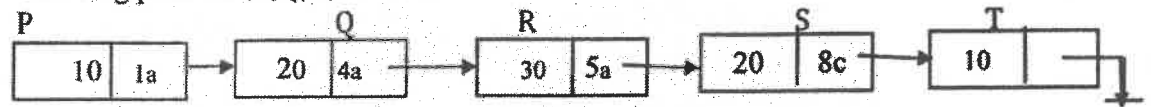
- A) Assume that we have a singly linked list, first node of the linked list is pointed by a pointer PTR. Write a C function to detect loop in the linked list. (10)

OR

- B) Consider a Circular linked list with a pointer (PTR) pointing to its head. Write a C function to delete a node from the circular linked list(consider all the cases). (10)

Q4.

- A) Assume that we have a single linked list, with five nodes, nodes are pointed by the following pointers ,P,Q,R,S and T. (10)



Write steps to insert a node after the node pointed by the pointer S.

OR

- B) Assume that we have two sorted single linked list. Pointers P and Q pointing to first node of the linked lists respectively. Write a C function to merge these two linked lists. (10)

Q5.

- A) What do you mean by a dynamic array? Write a 'C' functions to create a dynamic array to store N elements and then remove duplicate elements in that array. (10)

OR

- B) Assume that we have two singly linked lists. Pointers P and Q pointing to first node of the linked lists respectively. Write a C function to print similar nodes from both the linked lists. (10)