Roll No. | | | | | | | |

Paper Code: TMC 201

Mid Semester Examination 2024
MCA II Semester

Time: 1:30 Hrs

Data Structure

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.

(1*10=10)(CO 2, CO3)

A. Assume that you have a singly linked list, first node of the linked list is pointed by a pointer PTR. Write a C function to print the node having smallest information in that singly linked list.

OR

B. Assume that you have a double linked list, first node of the list is pointed by pointer P, Write a C function to search a node's information given by user, in that linked list if found delete the node, otherwise print appropriate message.

Q2.

(1*10=10)(CO2, CO3)

A. Write a C function to insert nodes in a double linked list; so that resultant linked list remains in the acceding order (do not use any sorting technique).

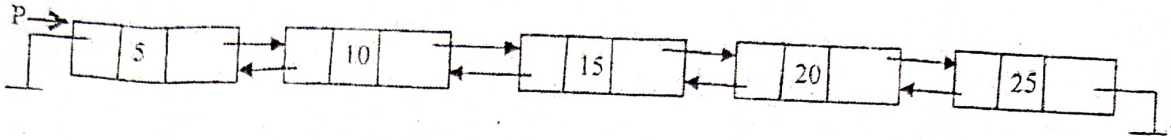
OR

B. Assume that you have a single linked list; first node of the linked list is pointed by a pointer PTR. Write a C function to delete alternate nodes in the linked list.

Q3.

(1*10=10)(CO 1, CO3)

A. Assume that you have a double linked list, first node of the list is pointed by pointer P, write a C function to insert a node after the last node of the list.



OR

C. What do you mean by a dynamic array? Write a 'C' function to create a dynamic Array to store N elements and then print 4th repeating elements in the array.

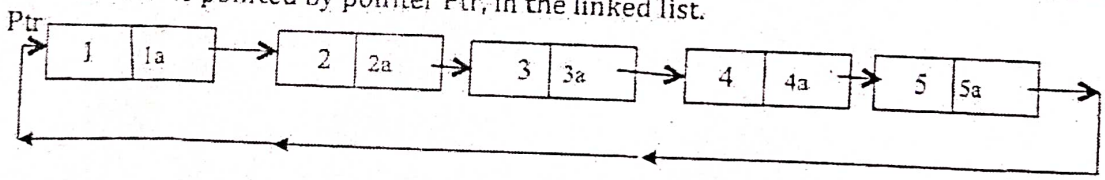
Q4.

(1*10=10)(CO 2, CO3)

A. Assume that we have two singly linked lists. Pointers P and Q are pointing to first node of the linked lists respectively. Write a C function to print similar node's information from both the linked lists.

OR

B. Consider a Circular linked list with a pointer, Ptr. Write a C function to delete the the node pointed by pointer Ptr, in the linked list.



Q5.

(1*10=10)(CO 2, CO3)

A. Assume that you have two single linked lists, First linked list is pointed by a pointer S and the second list is pointed by pointer Q. Write a C function to connect(concatenate) second linked list after first linked list.

OR

B. Assume that you have a single linked list; first node of the linked list is pointed by a pointer PTR. Write a C function to count the nodes having information as the prime number in the linked list.