Roll No. | | | | | | | | **Paper Code: TMC 201**

Mid Semester Examination 2023
MCA II Semester

Data Structure and file organization using 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. Convert the following infix expression into postfix expression using stack (Show all steps).

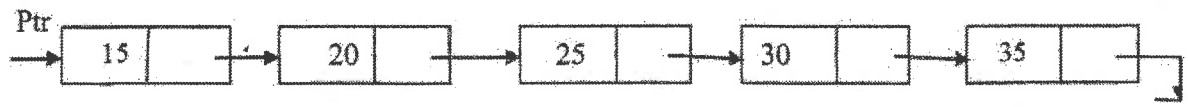
(A*B)/C+D*(G-H)+I/K **(10)**

OR

B. Assuming that you have two single *linked lists .Write c function to connect them one after the other. First linked list is pointed by a pointer S and the second list is pointed by pointer Q.* ***(10)***

Q2.

A. *Assume that we have a singly linked list. First node is pointed by pointer Ptr. Write a C function to delete second last node of the linked list.* **(10)**

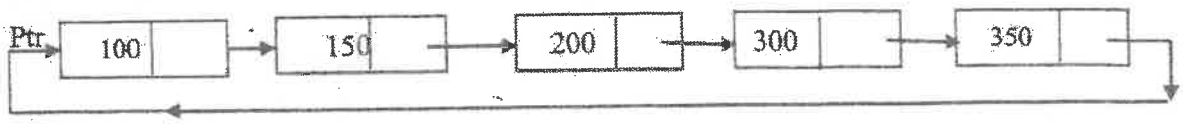


OR

B. *Assume that you have a singly linked list. First node is pointed by pointer Ptr. Write a C function to delete alternate nodes in the linked list.* **(10)**

Q3.

A. Consider the following circular linked list, first node of the linked list is pointed by a pointer Ptr. Write a C function to delete a node in the linked list(Consider all the possibilities). (10)



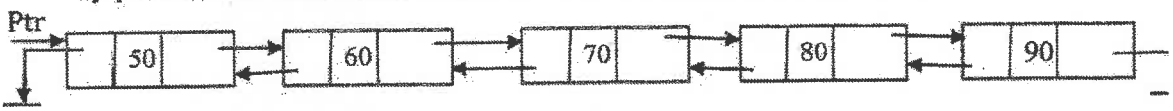
OR

B. Evaluate the following post fix expression suing stack(show all the steps). (10)

9, 2, *, 6, 3, –, 2, 3, +, *, +, 7, 2, /, -, 2, 3, ^, + (Here comma (,) is a separator)

Q4.

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



(10)

OR

B. Assuming that you *have a singly linked list with a pointer Ptr at first node . Write a C function to count nodes having information, multiple of 4 in the linked list.*

(10)

Q5.

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

OR

B. 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 dissimilar nodes from both the linked lists. (10)