



WALCHAND COLLEGE OF ENGINEERING

(Government Aided Autonomous Institute)
Visharambag, Sangli - 416415

Second Year B.Tech. Computer Science & Engineering
MSE, ODD SEMESTER, AY 2023-24

Data Structures (6CS202)



MSE

PRN: _____

Max Marks: **30**

IMP: Verify that you have received question papers with correct course code, branch etc.

Instructions

- All questions are compulsory.
- Writing question number on answer book is compulsory otherwise answers may not be assessed.
- Assume suitable data wherever necessary.
- Figures to the right of question text indicate full marks.
- Mobile phones, smart gadgets and programmable calculators are strictly prohibited.
- Except PRN anything else writing on question paper is not allowed.
- Exchange/Sharing of stationery, calculator etc. not allowed.

Text on the right of marks indicates course outcomes (Only for faculty use)

Marks

- | | | | |
|----|---|---|-----|
| Q1 | A) Differentiate between Algorithm and Pseudocode. Write Pseudocode to sort N number of elements. | 6 | CO2 |
| | B) Analyze the time complexity of recursive function for the problem Tower of Hanoi. | 4 | CO3 |
| Q2 | A) Illustrate Insert operation algorithm on Doubly Linked List. | 6 | CO1 |
| | B) Write an algorithm to reverse a given Linked List. | 4 | CO2 |
| Q3 | A) After performing the following set of operations on Double Ended Queue, what will be the contents of Double Ended Queue?
InsertFront (10);
InsertFront (20);
InsertRear (30);
DeleteFront ();
InsertRear (40);
InsertRear (10);
DeleteRear ();
InsertRear (25);
Display (); | 2 | CO1 |
| | B) Convert the following infix expression to a postfix expression.
$(A + (B / C - (D \wedge E / F) * G) * H)$ | 4 | CO2 |
| | C) Describe types of Queues in detail. | 4 | CO1 |

..... End of question paper