



QP CODE: 26802012



Reg No : .....

Name : .....

**INTEGRATED M Sc DEGREE EXAMINATION APRIL 2026**

**Second Semester**

**CORE - ICSC2CR3 - DATA STRUCTURES USING C++**

INTEGRATED MSc COMPUTER SCIENCE - ARTIFICIAL INTELLIGENCE & MACHINE  
LEARNING, INTEGRATED MSc COMPUTER SCIENCE - DATA SCIENCE

2020 Admission Onwards

CAB00F92

Time: 3 Hours

Weightage: 30

**Part A (Short Answer Questions)**

*Answer any **eight** questions.*

*Weight 1 each.*

1. What do you mean by Traversal? Give an example of traversing any data structure.
2. What is meant by Indirect recursion?
3. What are the limitations of array?
4. What is meant by a Jagged / Ragged array? Give an example.
5. Compare different sorting techniques.
6. How is a double ended queue represented?
7. What is meant by a priority queue?
8. Define singly linked list.
9. How can we insert a node into a doubly linked list?
10. Mention various operations performed on a circular linked list.

(8×1=8 weightage)

**Part B (Short Essay/Problems)**

*Answer any **six** questions.*

*Weight 2 each.*

11. Discuss the non linear data structure Tree with examples.
12. Discuss any one dynamic data structure, its advantages and disadvantages.
13. Describe any two operations performed in a one dimensional array.





14. Write an algorithm for merge sort.
15. What are the operations on stack ?
16. Write algorithm for inserting element into a circular queue and explain using an example.
17. Explain algorithms to create and display a singly linked list.
18. Explain circular linked list and its representation.

(6×2=12 weightage)

**Part C (Essay Type Questions)**

*Answer any **two** questions.*

*Weight 5 each.*

19. Discuss the User defined Datatypes supported by C++.
20. What are the different types of search techniques?
21. Write algorithm for evaluating expression using stack and evaluate the following expression  
 $2\ 5\ 3\ 6\ +\ *\ 15\ /\ 2\ -$
22. Discuss linked list, its representation, advantages and disadvantages.

(2×5=10 weightage)

