BACHELOR OF SCIENCE (INFO. & TECH.) Examination

BSCIT SEMESTER-2 APRIL 2025 (Regular) APRIL - 2025

CS-08: DATA STRUCTURE USING C LANGUAGE

Faculty Code : 017

Subject Code : 24CS-BSIT-MA-02-03001

[Total Marks : 50

Time : 2 Hours]

Q.1 (A) Attempt following.   3

    1. _____ is symbol of big omega.
    2. ____ is used to get file pointer position.
    3. What is algorithm?

Q.1 (B) Explain time complexity.   2

Q.1 (C) Explain classes of algorithm   OR   5

     3

Q.1 (A) Attempt following

    1. _____ function is used to move file pointer at the BOF.
    2. What is FILE?
    3. Explain putw().   2

Q.1 (B) Explain fseek().   5

Q.1 (C) Explain big oh and big omega notation.   3

Q.2 (A) Attempt following

    1. What is searching?
    2. Write down complexity of linear search.
    3. Merge sort follows _____ algorithm   2

Q.2 (B) Write down algorithm of linear search.   5

Q.2 (C) Write a program of Binary search.   OR   3

Q.2 (A) Attempt following

    1. List out sorting technique.
    2. _____ is known as bin sort.
    3. _____ is fastest sorting technique.   2

Q.2 (B) Write a program of bubble sort.   5

Q.2 (C) Explain quick sort with Program.

Q.3 (A)   Attempt following   3

    1. List out operation of stack
    2. List out types of queue.
    3. What is priority queue?

Q.3 (B)   Explain DEQue.   2
Q.3 (C)   What is stack? Write a program of stack for push(),pop() and display () operation.   5
                             OR

Q.3 (A)   Attempt following   3

    1. LIFO stands for _____
    2. FIFO stands for _____
    3. DEQue stand for _____
Q.3 (B)   Difference between stack and queue.   2
Q.3 (C)   What is data structure? Explain types of data structure.   5

Q.4 (A)   Attempt following   3

    1. _____ linked list travers in forward direction only.
    2. What is node?
    3. Linked list is _____ type of data structure.
Q.4 (B)   How to check linked list is empty?   2
Q.4 (C)   What is linked list? Explain singly linked list with create() and display()   5
                             OR

Q.4 (A)   Attempt following   3

    1. List out types of linked list.
    2. What is linked list.
    3. _____ linked list travers in both direction.
Q.4 (B)   Explain header linked list.   2
Q.4 (C)   What is linked list? Explain doubly linked list with create() and display()   5

Q.5 (A)   Attempt following   3

    1. What is tree?
    2. What is leaf node?
    3. What is root node?
Q.5 (B)   Difference between DFS and BFS.   2
Q.5 (C)   What is Binary search tree? Explain different types of tree traversal method.   5
                             OR

Q.5 (A)   Attempt following   3

    1. What is graph?
    2. Graph is _____ type of data structure.
    3. _____ order gives sorted list in tree traversal
Q.5 (B)   Difference between binary tree and binary search tree.   2
Q.5 (C)   Explain graph representation method.   5