



Seat No. _____

BACHELOR OF COMPUTER APPLICATION Examination

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

CS-08: DATA STRUCTURE USING C LANGUAGE

Faculty Code : 017

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

Time : 2 Hours]

[Total Marks : 50

- Q.1 (A) Explain time complexity.
Q.1 (B) Explain space complexity.
Q.1 (C) Explain Big Omega notation in detail.

OR

- Q.1 (A) What is command line argument? Explain with suitable example.
Q.1 (B) Explain Big-Oh notation.
Q.1 (C) What is algorithm? Explain various types of algorithms.

- Q.2 (A) Explain fopen(), fclose(), fscanf() with suitable syntax.
Q.2 (B) Explain bubble sort with suitable example.
Q.2 (C) Write an algorithm of quick sort.

OR

- Q.2 (A) Explain insertion sort with suitable example.
Q.2 (B) Explain merge sort with suitable example.
Q.2 (C) Write an algorithm of bucket sort.

- Q.3 (A) What is searching? Explain binary search with algorithm.
Q.3 (B) Give the difference between primitive and non primitive data structure.
Q.3 (C) Explain selection sort with algorithm and example.

OR

- Q.3 (A) Write a program to perform bubble sort.
Q.3 (B) Write a program to perform binary search.
Q.3 (C) Write a program to perform selection sort.

- Q.4 (A) What is stack? Explain its various operation.
Q.4 (B) What is queue? Explain its various operation.
Q.4 (C) What is circular queue? Explain its various operation.

OR

- Q.4 (A) Write an algorithm of push and display operation of stack.
Q.4 (B) Write an algorithm of insert and display operation in queue.



Q.4 (C) Explain recursion of stack.

Q.5 (A) Write a short note on single link list.

Q.5 (B) Explain header link list with suitable example.

Q.5 (C) Write a short note on double link list.

OR

Q.5 (A) What is tree? Explain various property of tree.

Q.5 (B) What is binary tree? Explain.

Q.5 (C) What is graph? Explain various graph traversal with suitable example.

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