



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. 3
- Q.1 (B) Explain space complexity. 2
- Q.1 (C) Explain Big Omega notation in detail. 5
- OR
- Q.2 (A) What is command line argument? Explain with suitable example. 3
- Q.2 (B) Explain Big-Oh notation. 2
- Q.2 (C) What is algorithm? Explain various types of algorithms. 5
- Q.2 (A) Explain fopen(), fclose(), fscanf() with suitable syntax. 3
- Q.2 (B) Explain bubble sort with suitable example. 2
- Q.2 (C) Write an algorithm of quick sort. 5
- OR
- Q.2 (A) Explain insertion sort with suitable example. 3
- Q.2 (B) Explain merge sort with suitable example. 2
- Q.2 (C) Write an algorithm of bucket sort. 5
- Q.3 (A) What is searching? Explain binary search with algorithm. 3
- Q.3 (B) Give the difference between primitive and non primitive data structure. 2
- Q.3 (C) Explain selection sort with algorithm and example. 5
- OR
- Q.3 (A) Write a program to perform bubble sort. 3
- Q.3 (B) Write a program to perform binary search. 2
- Q.3 (C) Write a program to perform selection sort. 5
- Q.4 (A) What is stack? Explain its various operation. 3
- Q.4 (B) What is queue? Explain its various operation. 2
- Q.4 (C) What is circular queue? Explain its various operation. 5
- OR
- Q.4 (A) Write an algorithm of push and display operation of stack. 3
- Q.4 (B) Write an algorithm of insert and display operation in queue. 2

- Q.4 (C) Explain recursion of stack. 5
- Q.5 (A) Write a short note on single link list. 3
- Q.5 (B) Explain header link list with suitable example. 2
- Q.5 (C) Write a short note on double link list. 5

OR

- Q.5 (A) What is tree? Explain various property of tree. 3
- Q.5 (B) What is binary tree? Explain. 2
- Q.5 (C) What is graph? Explain various graph traversal with suitable example. 5

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