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.1 (A)	What is command line argument? Explain with suitable example.	3
Q.1 (B)	Explain Big-Oh notation.	2
Q.1 (C)	What is algorithm? Explain various types of algoritms.	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 premitive data structure.	2
Q.3 (C)	Explain selection sort with algorith 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

Follow @shyamsireducation 7600301012 www.shyamsireducation.in

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

JAM0101543349 JAM0101543349 JAM0101543349
JAM0101543349 JAM0101543349 JAM0101543349
JAM0101543349 JAM0101543349 JAM0101543349

Follow @shyamsireducation 7600301012 www.shyamsireducation.in