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SHAHEED BHAGAT SINGH STATE TECHNICAL CAMPUS, FEROZEPUR

ROLL No: | | | | | | | | | | | | |

Total number of pages :[2]

Total number of questions:06

BCA/ 3rd Sem

Data Structures

Subject Code: BCAP1-312

Paper ID :

Time allowed: 3 Hrs **Max Marks: 60**

Important Instructions:

- **All questions are compulsory**
- **Assume any missing data**

PART A (2×10)

Q. 1. Short-Answer Questions:

(a) What is data structure?

(b) Write application of stack.

(c) Write advantages of link list over the array.

(d) What is merge sort?

(e) Write algorithm for binary search.

(f) What is a Binary tree?

(g) List various operations of data structures.

(h) What do you mean by time space trade off?

(i) What is significance of Big-oh notation?

(j) Define dangling pointer.

PART B (8×5)

Q. 2. What is an array? Explain different operations for array. CO1

OR

Write an algorithm to sort elements of array in ascending order. CO1

Q. 3. Explain working of doubly linked list. CO2

OR

What do you mean traversing? Explain for linked list. CO2

Q. 4. What is stack? How stack can be represented in memory. CO3

OR

What is BST? Write various operations on BST. CO3

Q. 5. Explain linked representation of a tree. CO4

OR

What is a queue? Write its applications. CO4

Q. 6 Explain bubble sort in detail. CO5

OR

Explain insertion sort in detail. CO5