



HB-3538

B. C. A. (Sem. III) (CBCS) Examination

March / April - 2018

Data Structures

Time : Hours]

[Total Marks : 70

Instructions :

(1)

नीचे दशांशिक निशानियाणी विगतो उत्तरवडी पर अवश्य वपवी.
 Fillup strictly the details of signs on your answer book.

Name of the Examination :
 B. C. A. (SEM. 3) (CBCS)

Name of the Subject :
 DATA STRUCTURES

Subject Code No : 3 5 3 8 Section No. (1, 2,.....) : Nil

Seat No : [] [] [] [] [] [] [] []

Student's Signature

- (2) Write to the point.
- (3) Provide examples and diagrams wherever appropriate / necessary.
- (4) Figures to the right indicate full marks to the question.

1 Answer the following : (Any Seven) 14

- (1) What do you mean by link list? List out types of link list.
- (2) What is recursion?
- (3) What is the difference between Sequential and Binary Search?
- (4) Differentiate between liner and non-liner data structure.
- (5) Explain D-Queue.
- (6) Define the term : Simulation
- (7) Explain the difference between Singly and Doubly link list.
- (8) Which condition is not required in dynamic stack?

2 Do as Directed : (Any Two) 14

- (a) Explain 2-3 trees in detail.
- (b) What is stack? Write an algorithm to perform various operations on stack.
- (c) What is sorting? Explain which sorting technique is faster. Write an algorithm to sort an element using Insertion Sort.

3 Do as Directed : (Any Two) 14

- (a) Write a short note on storage representation of binary tree.
- (b) Write an algorithm to insert and delete elements in Output restricted D-queue.
- (c) Write an algorithm to insert and delete elements in Singly link list.

4 Do as Directed : (Any Two) 14

- (a) Write an algorithm for binary search.
- (b) Compare dynamic memory allocation & static memory allocation. Which is better? Justify your answer with suitable examples.
- (c) What is Binary Tree? Explain traversal operation -on binary tree.

5 Write Notes on Following : (Any Two) 14

- (a) Tower of Hanoi
- (b) Quick sort
- (c) AVL tree.