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(21218)

BCA- III Sem.

Roll No. ....

18012

B. C. A. Examination, Dec. 2018

Data Structure Using C and C++

(BCA-302)

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Questions)

Answer all the *five* questions. Each question carries 3 marks. Very short answer is required. 3×5=15

1. What are AVL trees ?

2. What do you understand by Data Structure ?

3. What is an array ? Explain.

4. Give the application of stack.

5. Define circular list and chain.

Section-B

(Short Answer Questions)

Answer any *two* questions out of the following three questions. Each question carries 7½ marks. Short answer is required. 7½×2=15

6. Write the procedure to delete an element from an array.

7. Write a recursive function to count the number of leaves in a binary tree.

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8. Write a function to reverse a stack using push and pop operation.

Section-C

(Detailed Answer Questions)

Answer any *three* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail. 15×3=45

9. (a) How to delete an element from a linked queue? Write procedure.

 (b) Find the time complexity of Bubble Sort Algorithm.

10. (a) What is Binary search tree?

 (b) What is a B-tree?

11. (a) Write a function to evaluate a postfix expression. Show status of stack for each scanned token if the postfix expression is :

 ABC * DEF $/- G+H* –

 (b) Differentiate between stacks and queues.

12. Write a program to print a given singly linked list in the reverse order.

13. Write short notes on the following :

 (a) Priority Queues

 (b) Hashing Techniques.