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(21216) Roll No. .....

B. C. A.- III Sem.

18012

B. C. A. Examination, Dec. 2016

Data Structure Using C and C++

(BCA-302)

(New Course)

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 not exceeding 75 words. 3×5=15

1. How single dimensional array can be represented in computer memory ?

2. What is priority queue ?

3. Give the use of header node in linked list.

4. Differentiate between linear search and binary search technique.

5. Briefly explain complete binary tree with example.

Section-B

(Short Answer Questions)

Answer any *two* questions out of the following three questions. Each question carries 7½ marks. Short answer is required not exceeding 200 words. 7½×2=15

6. What is postfix expression form of any infix expression ? Write an algorithm to convert infix expression into postfix expression.

7. Write a program in C language to search a given element in linked list.

8. Explain the various types of hash functions with example.

Section-C

(Detailed Answer Quest

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

9. What do you mean by traversal ary tree ? Give the recursive algorithm for var ypes of binary tree traversal with suitable exam

10. Explain the following terms in re with queue :
    (a) Insertion and deletion oper
    (b) Applications
    (c) Limitations and their reme

11. What is binary search tree ? Writ gram in C++ to create a binary search tree havin lements. Apply the given program on the followi a :

    –5, 10, 100, 5, – 6, 1, 0

12. Explain Merge Sort with a suitab mple in detail.

13. Write notes on the following (any three) :
    (a) Two-way list
    (b) Selection sort
    (c) Sparse array with example
    (d) Linear search.