2020

COMPUTER APPLICATION (Honours)

Paper : BCAH - DC - 3(a)

(Data Structure & Algorithm)

(CBCS)

Full Marks : 25 Time : Two Hours

The figures in the margin indicate full marks.

Group - A

Answer any *five* questions : 2×5=10

1. (a) Discuss memory representation of a 2D Array.
   (b) Why sorting is required?
   (c) Define Queue with an example.
   (d) Write the advantage of circular queue over linear queue.
   (e) Define Non-linear data structure with examples.
   (f) Write one advantage and one disadvantage of Binary search as compare to Linear search.

Group - B

Answer any *three* questions. 5×3=15

2. Convert the following infix expression into equivalent postfix expression :

   a + b * c + (d * e + f) * g.

3. Explain Merge sort with an example.

4. Write an algorithm to delete an element from a Circular linked list.

5. (a) Construct a binary tree using the following tree traversals.

Inorder : D, I, B, A, E, C, G, F, H

Postorder : I, D, B, E, G, H, F, C, A

(b) Traverse the newly constructed tree in preorder technique. 3+2=5

6. Write a short note on any *one* :

(a) AVL tree

(b) Doubly linked list