

UG/3rd Sem/G/20(CBCS)

2020

## COMPUTER SCIENCE (General)

Paper : DC-3/GE-3  
(Data Structure using C)  
(CBCS)

Full Marks : 32

Time : Two Hours

*The figures in the margin indicate full marks.*

### Group - A

Answer any *six* questions.

2×6=12

1. (a) What is a binary tree?
- (b) Define ADT.
- (c) Write the difference between Singly and Doubly Linked List.
- (d) What are the limitations of arrays?
- (e) Translate infix expression into its equivalent post fix expression :  
(A-B)\*(C/D).
- (f) Define Queue.
- (g) What is a linked list?
- (h) Discuss Overflow and Underflow.

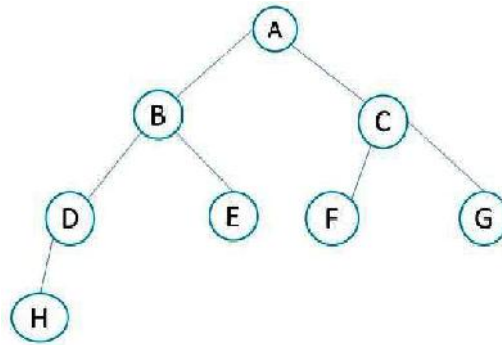
### Group - B

Answer any *two* questions.

10×2=20

2. (a) Define stack? What are PUSH and POP operation?

(b) Traverse the given tree using In-order and Post-order traversals.



$$(1+4)+(2\frac{1}{2}+2\frac{1}{2})=10$$

3. (a) What is insertion sort? Sort 20, 35, 40, 80, 1, 10, 15 using insertion sort.

(b) What is an array? What are the advantages of Linked List over an array?  $(1+4)+(1+4)=10$

4. (a) What are Infix, Prefix, Postfix notations? Write the postfix form of the expression of  $(A + B) * (C - D)$

(b) Write a short note on Binary Search Technique.  $(3+2)+5=10$

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