



2:

Q # 1 (a).

56, 59, 45, 40, 43, 55

Ans

using insertion sort.

sol

0 1 2 3 4 5  
56, 59, 45, 40, 43, 55

$$n=6$$

$$\text{steps} = 6-1 = 5$$

step # 1

element = 59

56, 59, 45, 40, 43, 55

56, 59, 45, 40, 43, 55

step # 2

element = 45

56, 59, 45, 40, 43, 55

56, 45, 59, 40, 43, 55

45, 56, 59, 40, 43, 55

step # 3

element = 40

45, 56, 59, 40, 43, 55

45, 56, 40, 59, 43, 55

45, 40, 56, 59, 43, 55

40, 45, 56, 59, 43, 55

③

Step # 4 element = 43

40, 45, 56, 59, 43, 55

40, 45, 56, 43, 59, 55

40, 45, 43, 56, 59, 55

40, 43, 45, 56, 59, 55

Step # 5 element = 55

40, 43, 45, 56, 59, 55

40, 43, 45, 56, 55, 59

40, 43, 45, 55, 56, 59

End

Q # 3x Fill in the blanks.

Ans)

i) Nodes

ii) Edge

iii) 0

iv)

v) Oldest Brother

vi) Youngest Brother

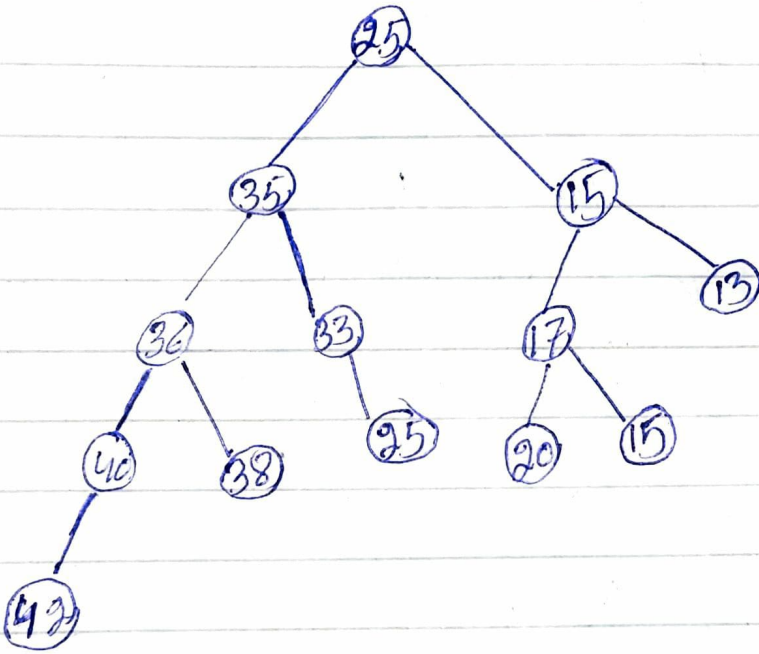
vii) Non-Linear

viii) Forest

(4)

Q # 2

25, 15, 35, 17, 33, 36, 25, 13, 15, 40, 38, 42, 20



verifying using in order tree.

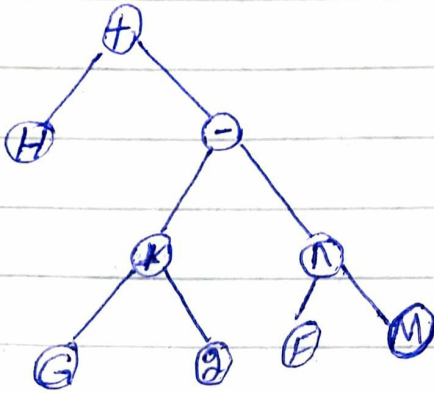
42, 40, 38, 36, 35, 33, 25, 25, 20, 17, 15, 15, 13.

The list is sorted.

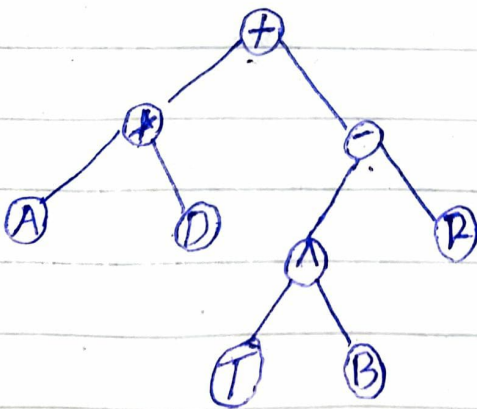
5)

Q ## 3

i)  $H + G * 2 - (F \wedge M)$



ii)  $A * D + T \wedge B - P$



End

(6).

Q # 4

Ans (i). In order Traversal  
H, t, G, \*, 2, -, F, A, M  
~~H, t, G~~

(ii) Pre order Traversal.  
t, H, -, \*, G, 2, A, F, M

(iii) Post-order Traversal.  
H, G, 2, \*, F, M, A, -, t



(Part 2)

(1) In order Traversal.  
A, \*, D, t, T, A, B, -, R (LOR)

(2) Pre-order Traversal.  
t, \*, A, D, -, T, B, R. (DLR)

(3) Post order Traversal. (LRD).  
A, D, \*, T, B, A, R, -, t.

Thanks

The end  
شکر