

Gate Problems...



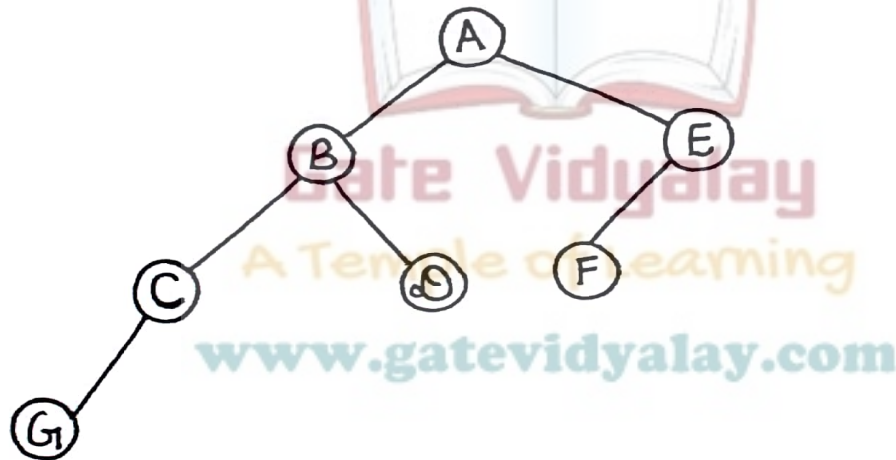
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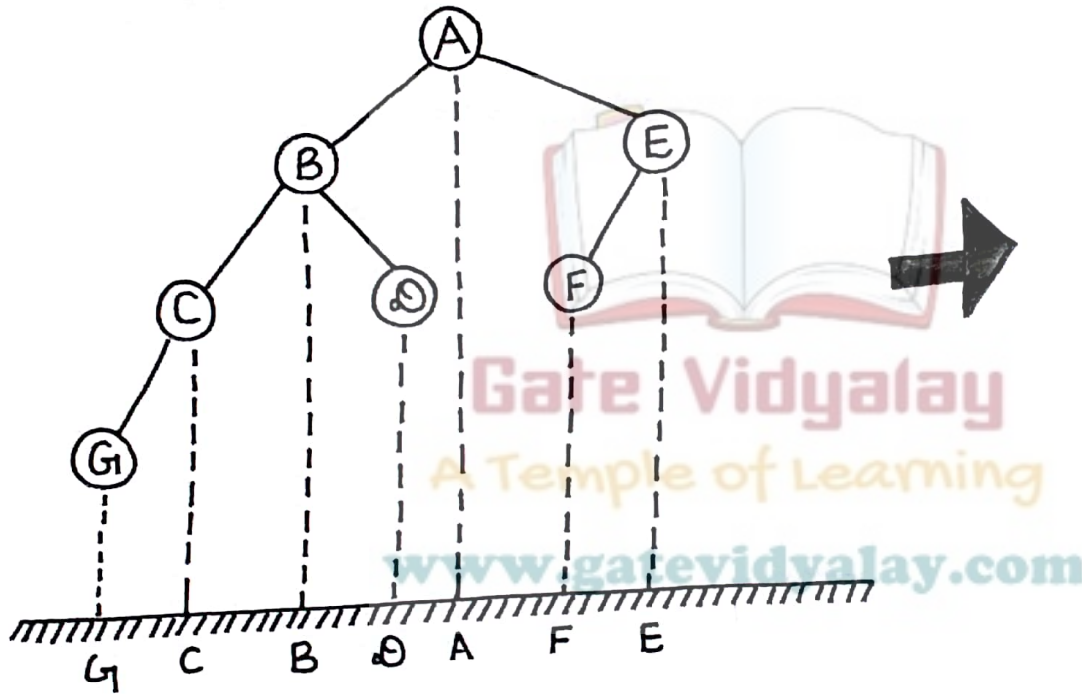
Question:

If the binary tree in figure is traversed in inorder, then the order in which the nodes will be visited is _____?



(GATE-1991)

Solution:

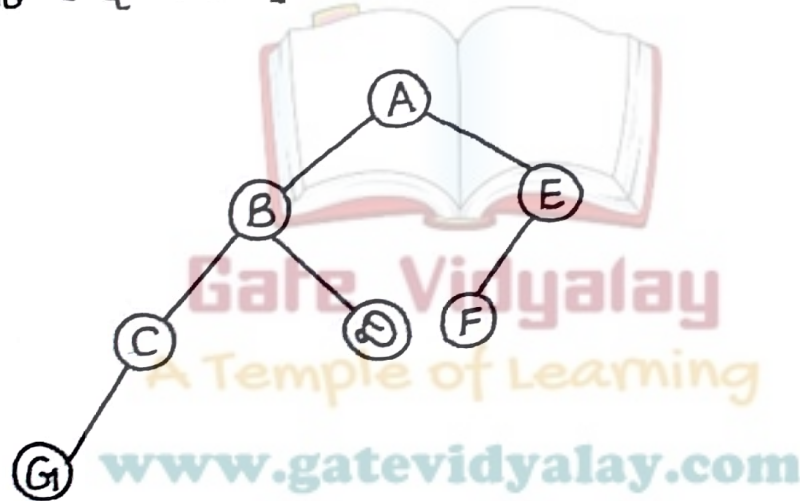


Inorder Traversal

G C B D A F E

Question:

Which of the following sequences denotes the postorder traversal sequence of the tree shown in figure?



(GATE-1996)

(A) FE G C B D A

(C) G C D B F E A

(B) G C B D A F E

(D) F D E G C B A

Solution:

Follow Left \rightarrow Right \rightarrow Root rule of postorder traversal recursively.

OR
Pluck the leaf nodes keeping yourself to the left.
(shortcut)

correct option is (C)

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Question:

Let LASTPOST, LASTIN, LASTPRE denote the last vertex visited in a postorder, inorder and preorder traversal respectively of a complete binary tree. Which of the following is always true?

(A) $\text{LASTIN} = \text{LASTPOST}$

(B) $\text{LASTIN} = \text{LASTPRE}$

(C) $\text{LASTPRE} = \text{LASTPOST}$

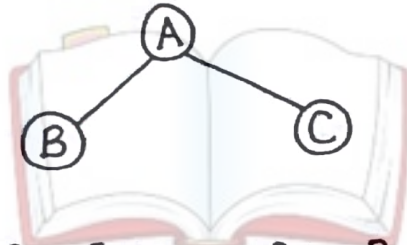
(D) None of the above

(GATE - 2000)

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Solution:

Consider the complete binary tree -



Inorder traversal : B, A, C

Preorder traversal : A, B, C

Postorder traversal : B, C, A

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Clearly, LASTIN = LASTPRE

∴ Option (B) is correct

Question:

Level order traversal of a rooted tree can be done by starting from the root and performing -

(A) Preorder traversal

(B) Inorder traversal

(C) Depth First search

(D) Breadth First search

(GATE-2004)

Solution:

Correct option is (D)

Question:

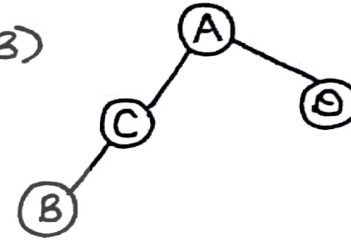
Which one of the following binary trees has its inorder and preorder traversals as BCAD and ABCD respectively-

(GATE-2004)

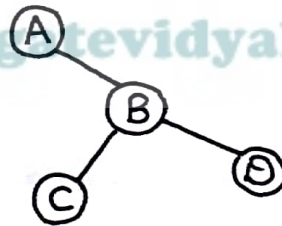
(A)



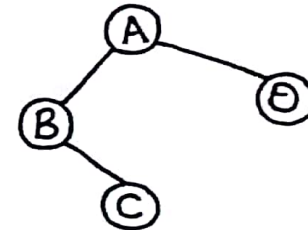
(B)



(C)



(D)



Solution:

Correct option is (D)

Question:

The following three are known to be the preorder, inorder and postorder sequences of a binary tree. But it is not known which is which?

I) MBCAFHPYK

II) KAMCBYPFH

III) MABCKYFPH

(GATE-2008)

Pick the true statement -

- (A) I and II are preorder and inorder sequences respectively
- (B) I and III are preorder and postorder sequences respectively
- (C) II is the inorder sequence but nothing more can be said.
- (D) II and III are the preorder and inorder sequences respectively.

Solution: Correct option is (D)