

Q No: 01

## Traversals of Tree

i) Preorder Traversal

Solution:

A, B, C, X, S, U, T, Y, P, R, L, D, E, F, G, I, J  
H, N, T, V

ii) In-order:

Solution:

U, S, T, X, C, P, Y, R, B, A, I, G, J, F, H, N, H  
V, T, E, D, L

iii) Post Order :

L Solution)

U, T, S, X, P, R, Y, C, B, I, J, G, N, V  
T, H, F, E, D, L, A

Rules of Pre-order

- 1) Visit Root,
- 2) Visit subtree Left To Right

Rules of In-order

- 1) Visit Left most Subtree
- 2) Visit Root
- 3) Visit other SubTree Left to Right

Rules of Post Order

- 1) Visit Subtree Left To Right
- 2) Visit Root.



Q No: 02

Determine

### i) Euler Circuit Rules

- 1) Starting Ending Point must be same
- 2) Every edge must be traversed exactly once.
- 3) Repetition of edges not allowed.
- 4) Vertices can be repeated.

~~iii~~ According to these Rules  
The given Graph is not Euler Circuit.

### ii) Euler Path Rules

- 1) Starting and Ending Point must be different.
- 2) Every Edge must be traversed exactly once
- 3) Repetition of edges is not allowed
- 4) Vertices can be repeated.

According to these Rules. The given  
Graph is not Euler Path.

### iii) Hamilton Circuit Rules

- 1) Starting and Ending Point must be same.
- 2) Every vertex must be traversed exactly once.
- 3) Repetition of vertex is not allowed.
- 4) ~~Repetition~~ Repetition of edges is not allowed.
- 5) It is not necessary to visit each edge.

According to these Rules the given  
Graph is not Hamilton Circuit.

#### iv) Hamilton Path Rules

•) Starting and Ending point must be different

•) Every vertex must. be traversed exactly once

•) Repetition of vertex is not allowed

•) Repetition of edges is not allowed

•) It is not necessary to visit each edge.

According to these Rules the given Circuit is not Hamilton Path.

