COL202: Discrete Mathematical Structures. I semester, 2017-18.
Quiz 10
26 October 2017
Maximum Marks: 4

Name	Ent. No.

Important: Keep your answer within the box. Anything written outside the box will be treated as rough work. Do your rough work on the free space on the flip side of this sheet.

Q. A rooted tree T contained in G is called *normal* if the ends of every T-path of G are comparable in the partial order induced by T in which the root is the minimum element. Recall that given H subgraph of G, an H-path of G is a path that meets H only in its endpoints. Also recall that T is called a spanning tree of G if T is a spanning subgraph of G and is also a tree.

Prove by induction that every connected graph contains a normal spanning tree with any specified vertex as its root.