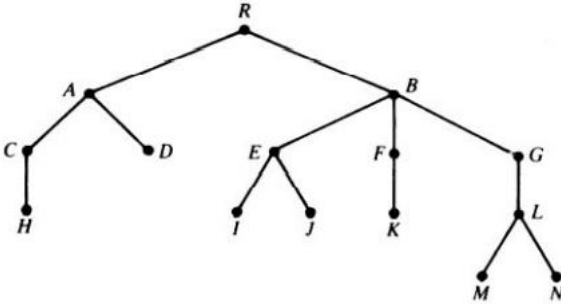## TUTORIAL 5(b): Graphs and Trees

1	Define the following terms by giving an example (i). Tree (ii). Rooted tree (iii). Spanning Tree (iv). Minimum spanning tree
2	Which of the given graphs are trees? Justify your Answer
3	Answer the following question about rooted trees given below: (a) Which vertex is the root? (b) Which vertices are internal? (c) Which vertices are leaves? (d) Which vertices are children of j? (e) Which vertex is the parent of h? (f) Which vertices are siblings of a? (g) Which vertices are ancestors of m? (h) Which vertices are descendants of b? (i) Is the rooted tree a full m-ary tree for some positive integer m? (j) What is the level of each vertex of the rooted tree?
4	Find a spanning tree from the following graphs:

5.	Let T be the rooted tree

(a) Identify the path α from the root R to each of the following vertices, and find the level number n of the vertex: (i) H; (ii) F; (iii) M.
(b) Find the siblings of E.
(c) Find the leaves of T . |
| 6 | Use Prim's and Kruskal's algorithm for finding the minimum spanning tree from the following weighted graphs

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