NAME: .....

MAT 518 , ASSIGNMENT-2

1. Sketch the weighted graph corresponding to the adjacency matrix $A = \begin{bmatrix} 0 & 2 & 5 & 0 & 3 & 0 \\ 2 & 0 & 2 & 0 & 8 & 10 \\ 5 & 2 & 0 & 2 & 1 & 0 \\ 0 & 0 & 2 & 0 & 2 & 4 \\ 3 & 8 & 1 & 2 & 0 & 9 \\ 0 & 10 & 0 & 4 & 9 & 0 \end{bmatrix}$.

   Here the entries represent the weights rather than the multiplicities.

2. For the previous graph, find the shortest path and its length, between the vertices v_1 and v_6.

3. Construct the binary search tree corresponding to the letters : $HGLEKAPFM$ respectively.

4. Compute the height and the number of leaves in the previous tree. Determine whether it is full or balanced.

5. Give at least three examples of trees which come up with in the real life or science.