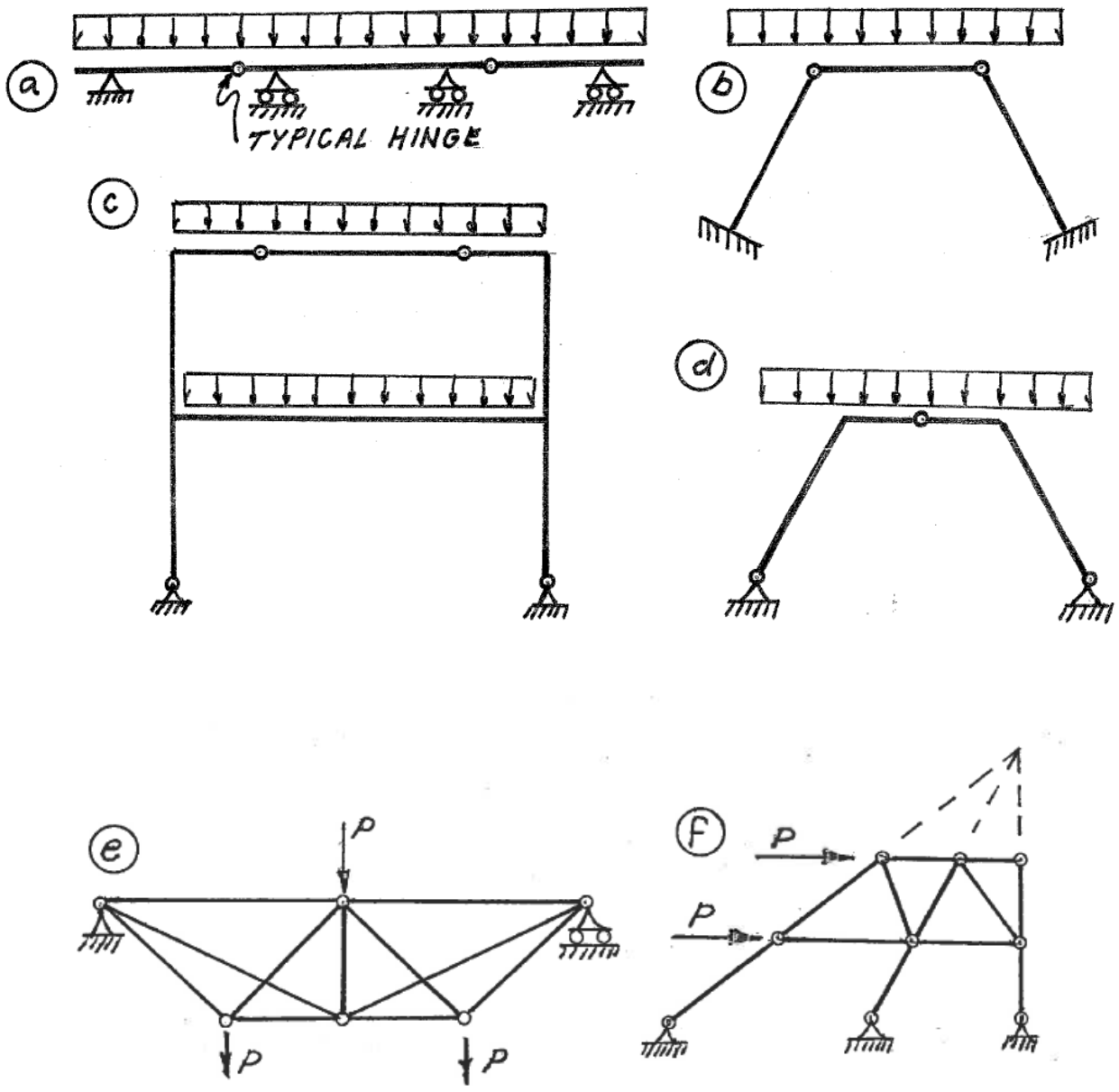
Assignment #1

Due date: 9-20-2016

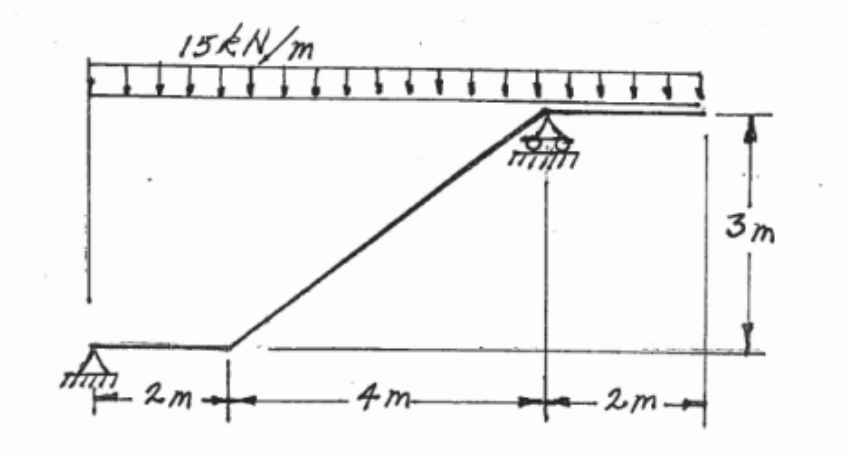
Question 1 (6x2=12 Marks)

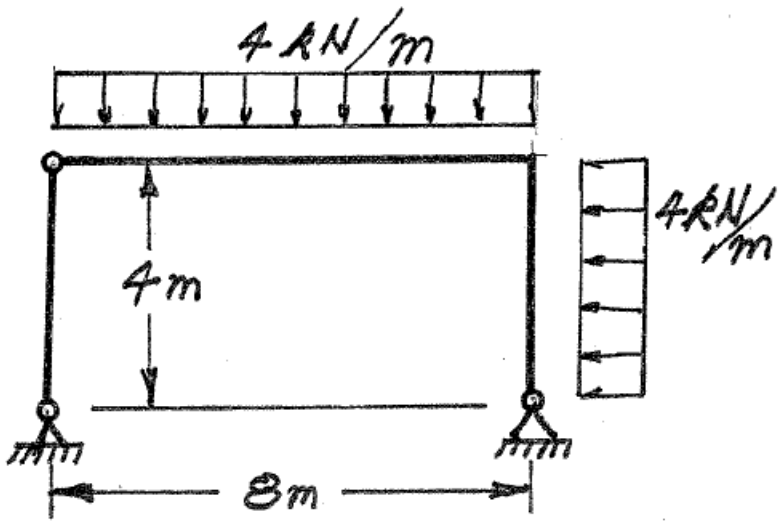
For each of the structures shown below, state whether the structure is unstable, statically determinate or indeterminate. If the structure is statically indeterminate, state the degree of indeterminacy. Structures (a) through (d) have beam-type members. Structures (e) through (f) have truss-type members and the diagonals are not connected where they cross.



Question 2 (2x12=24 Marks)

For each structure shown below, compute the reactions and draw shear and bending moment diagrams. Indicate positive and negative segments of each bending moment diagram. For each shear and moment diagram calculate and indicate the magnitudes of the maximum positive and negative ordinates.





Question 3 (2x2=4 Marks)

a) Briefly explain the importance of determining the stability and determinacy of a structure.

b) What are the advantages/disadvantages of indeterminate structure compared with determinate structure? Give some examples of real life indeterminate structure.