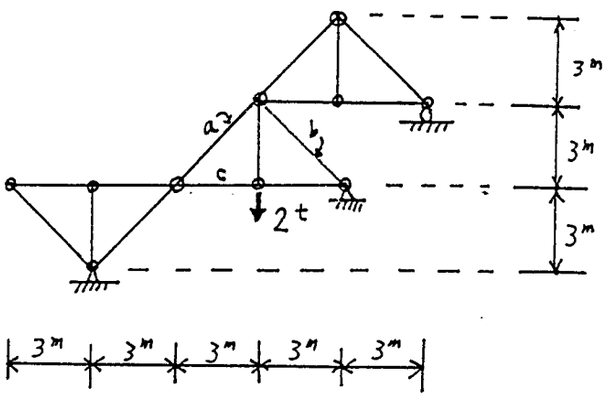

Fig. 1

1. Determine the forces in members a, b and c as shown in Fig. 1. (20%)

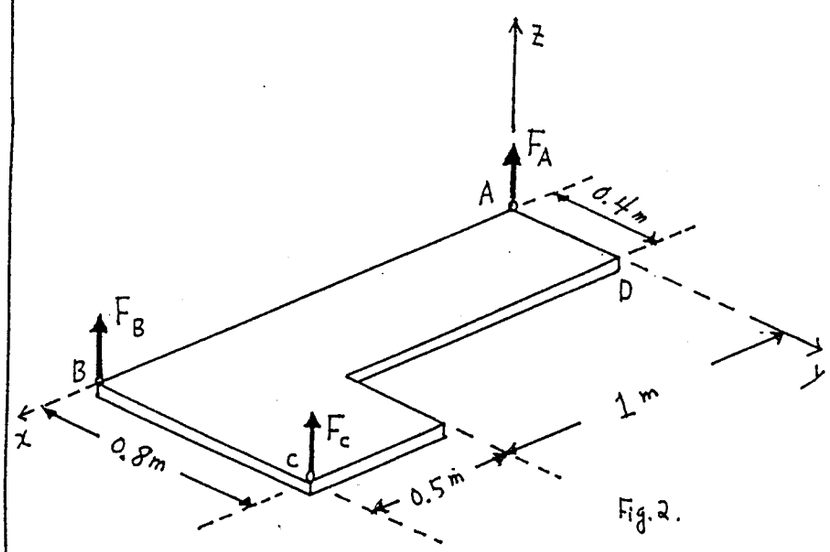

Fig. 2.

2. The plate has a mass of 50 kg/m². Determine the force in each cable if it is suspended in the horizontal plane. (20%)

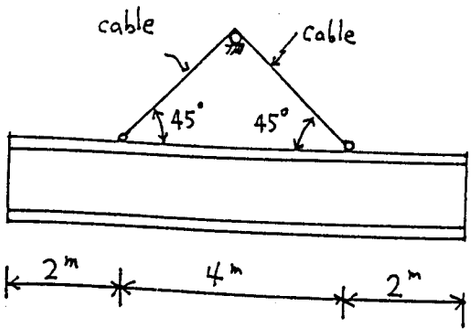

Fig. 3.

3. The beam has a weight of 600 N/m. Draw the shear and moment diagrams for the beam. (20%)

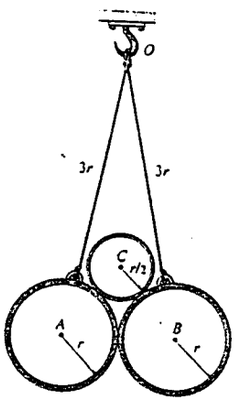

Fig.4.

4. Two smooth tubes A and B, each having the same weight W, are suspended from a common point O by means of equal-length cords. A third tube, C, is placed between A and B. Determine the greatest weight of C without upsetting equilibrium. (20%)

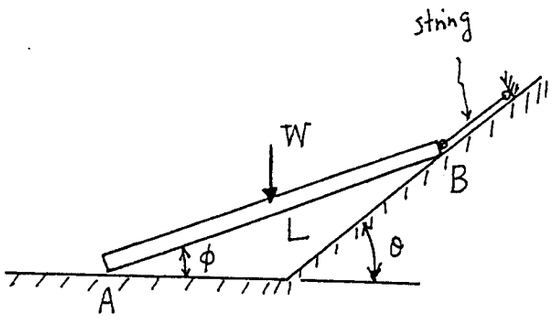

Fig. 5.

5. A force W is applied at the center of the weightless plank. If the planes at A and B are smooth, determine the tension in the string in terms of W and θ. (Fig. 5)

(20%)