

Indian Institute of Technology Guwahati
ME 101: Engineering Mechanics (2016-2017, Sem II)

Tutorial 0 (9.01.2017) (Div 1 & 4)

Time: 8:00 AM – 8:55 AM

Full Marks: 40

1. A precast-concrete wall section is temporarily held by the cable shown Fig. 1. The tension in cable AB is 840 N and the tension in cable AC is 1200 N. The magnitude and direction of the resultant of the forces exerted by cables AB and AC on stake A .
2. Two cables are tied together at C and are loaded as shown in Fig 2. Determine the tension (a) in cable AC , (b) in cable BC .
3. Three cables are used to tether a balloon as shown in Fig 3. Determine the vertical force P exerted by the balloon at A knowing that the tension in cable AC is 44 N.
4. A frame ABC is supported in part by cable DBE that passes through a frictionless ring at B as shown in Fig 4. Knowing that the tension in the cable is 385 N, determine the components of the force exerted by the cable on the support at D .

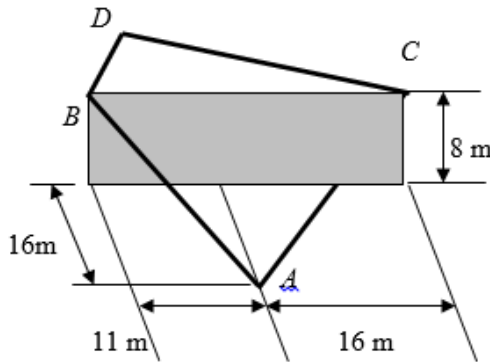


Fig. 1

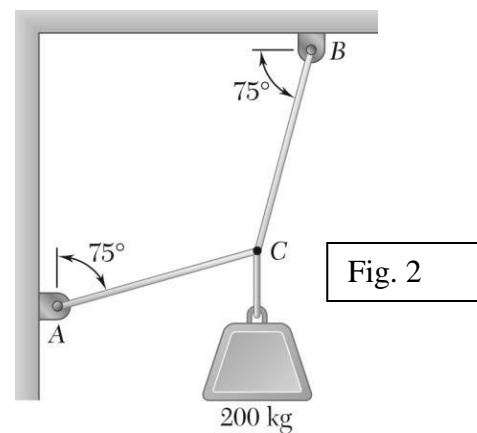


Fig. 2

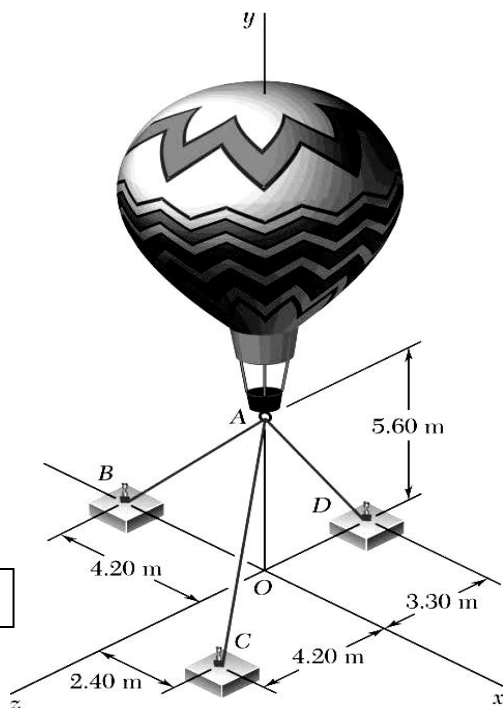


Fig. 3

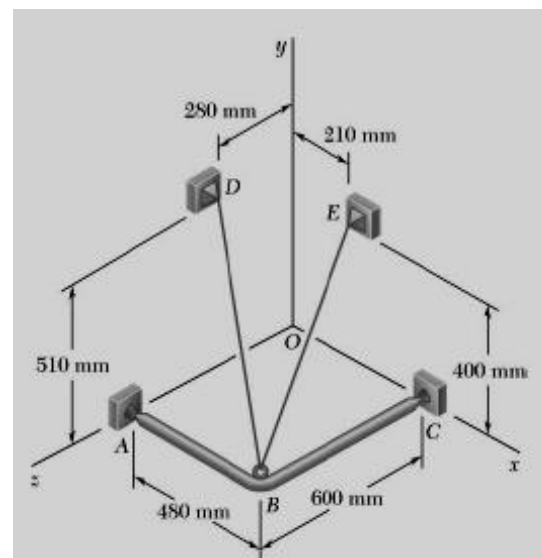


Fig. 4