

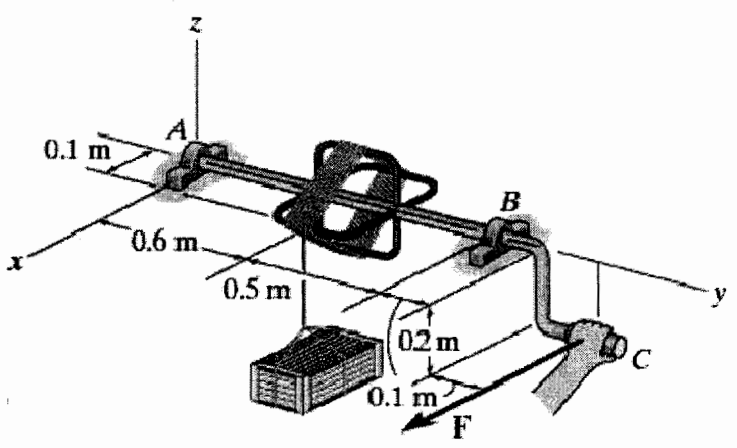
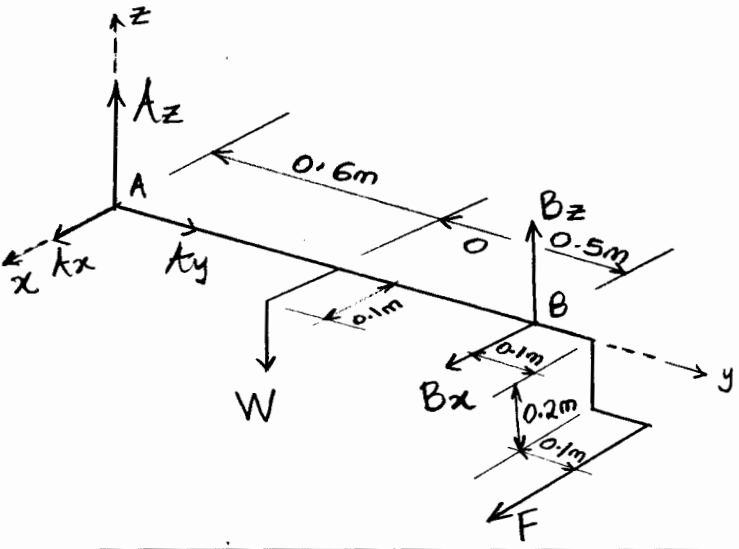
King Fahd University of Petroleum & Minerals
 CIVIL ENGINEERING DEPARTMENT
CE 201 STATICS (Sections 1 & 2)
 Second Semester 1432 / 2011 (102)

Name: _____
 ID #: _____

Quiz # 7

Score _____
 10

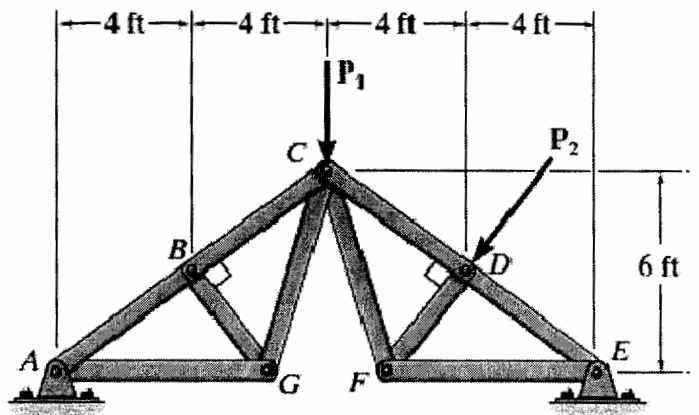
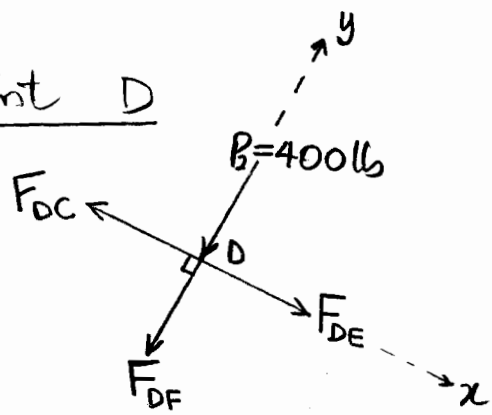
1) Draw the **free-body diagram** of the structure shown. The supports are a *thrust bearing* at A and a *smooth journal bearing* at B that are properly aligned.



2) In the truss shown,
 a) determine all **zero-force members**, b) the **force in member DF**. Set $P_1 = 600 \text{ lb}$, $P_2 = 400 \text{ lb}$.

(a) Zero force members are:
 $BG \Rightarrow GA \ \& \ GC$

(b) Joint D



$$+\nearrow \sum F_y = 0 \Rightarrow -400 - F_{DF} = 0$$

$$F_{DF} = -400 \text{ lb} \Rightarrow \boxed{F_{DF} = 400 \text{ lb 'C'}}$$