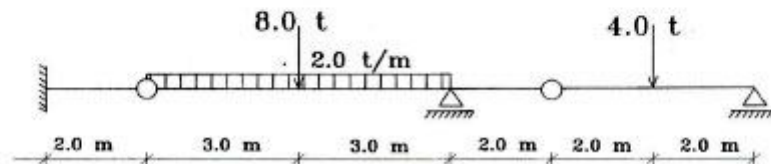


Fayoum University  
Faculty of Engineering  
Theory of Structures  
First Term Exam (2015-2016)

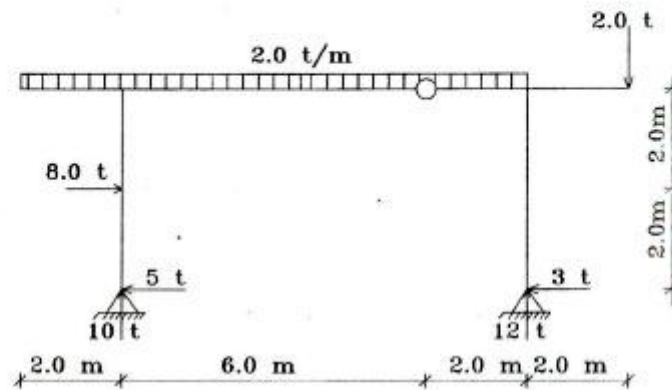
First Year Architect

Time = 3.0 Hours

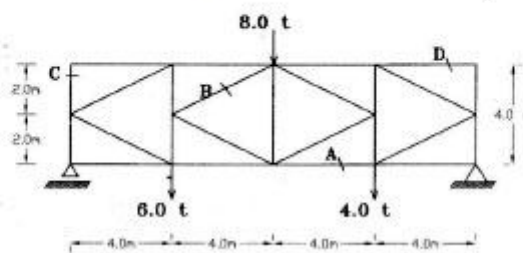
1- Calculate the reactions of the shown beam.



2- Draw the N.F. , S.F. , and B.M. diagrams if the loads and reactions of the frame as shown

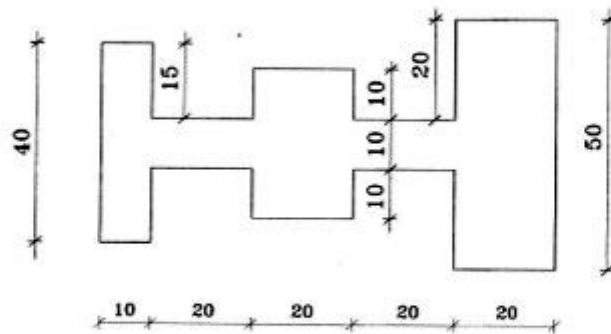


3- For the shown truss Calculate analytically the force in the marked members.



4- Calculate for the shown section (  $A$  ,  $I_x$  ,  $I_y$  ,  $I_{xy}$  ).

Note: All dimensions in centimeter



5- Draw the normal stress distribution at section S-S of the shown column.

$$A = 208 \text{ cm}^2$$

$$I_x = 11700 \text{ cm}^4$$

$$I_y = 60000 \text{ cm}^4$$

