


Minufiya University	Rigid Steel Frames Course (CVE 508)	
Faculty of Engineering	Date: 7 June 2017	
Civil Engineering department	Time allowed 3:00 hours: Marks (100)	

- Loading code and all steel design codes are allowed.
- Steel tables are allowed.
- Assume any missing data reasonably

**Q1: (20 marks).**

Using LRFD, select a suitable one angle section of steel 37 to be used a compression member. Its length is 2.80 m and the axial compressive dead load, D is 2.5 ton. The compressive live load, L is 1.5 ton.

**Q2: (80 marks):**

For the shown frame on Figure 1, if the covered area has length of 40m. The spacing between frames is 5m and Bolts used are M16.

- 1-Propose a structural system and draw 3 views to a scale 1/100 showing all braces.
- 2- Find the straining actions on the frame under the given loads.
- 3- Design the frame including the rafter and the column.
- 4- Design the base connections at A.
- 5- Draw to scale 1:10 the base connection at A (two views).
- 6- Design the anchor bolts needed at A.

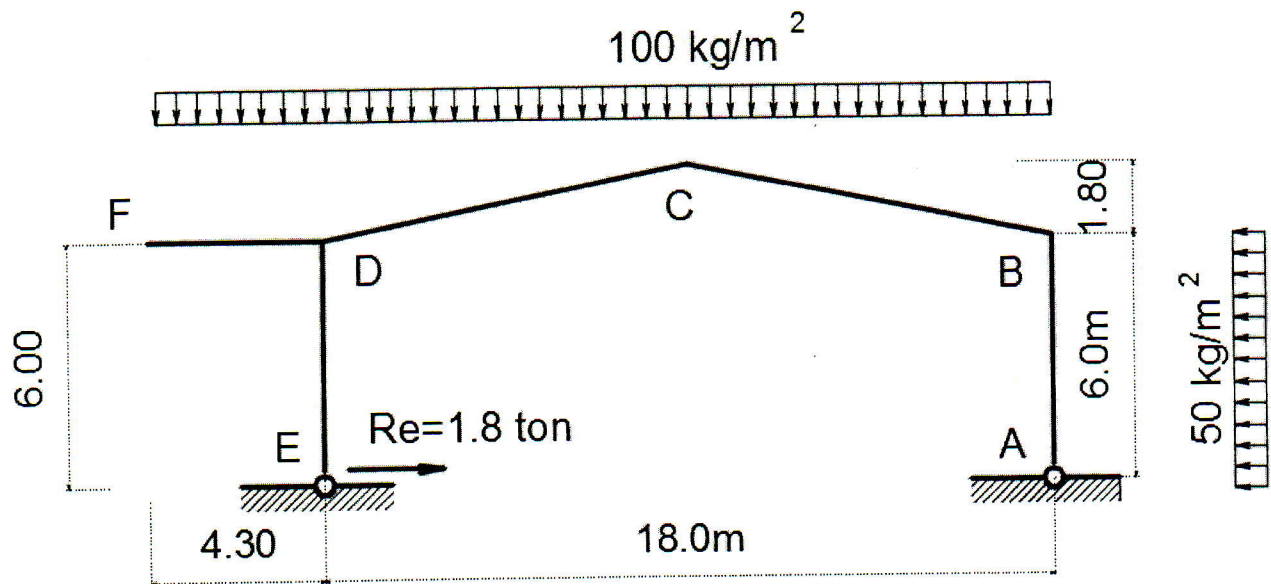


Figure 1