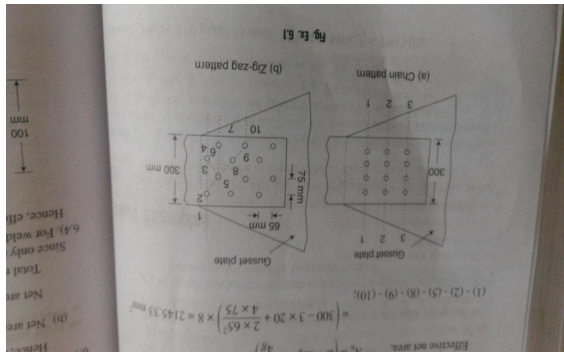


## ASSIGNMENT-3 TENSION MEMBER last date-27-3-14

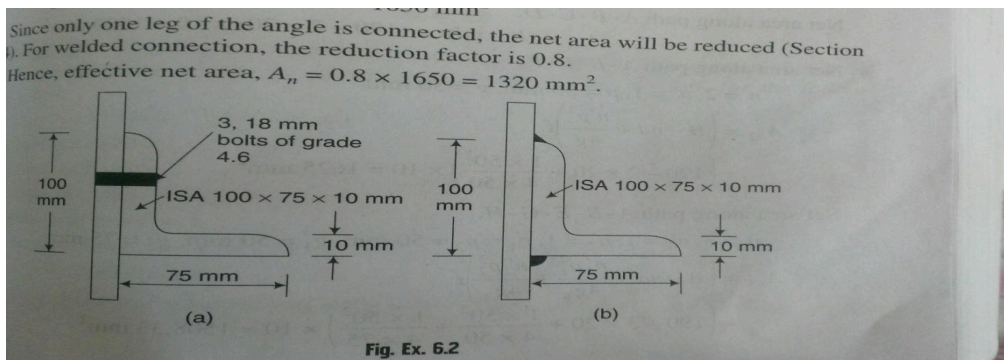
Ques1- A 300 isf 8 mm of grade Fe410 is used as a tension member in a lattice girder . it is connected to a 12 mm thick gusset plate by 20 mm diameter bolts of grade 4.6. calculate the effective net area of the member, if

a) chain bolting is done as shown in fig-a

b) zig zag bolting is done as shown in fig b



question2- determine net effective area for the section as shown in figure. the grade of steel is Fe 410.

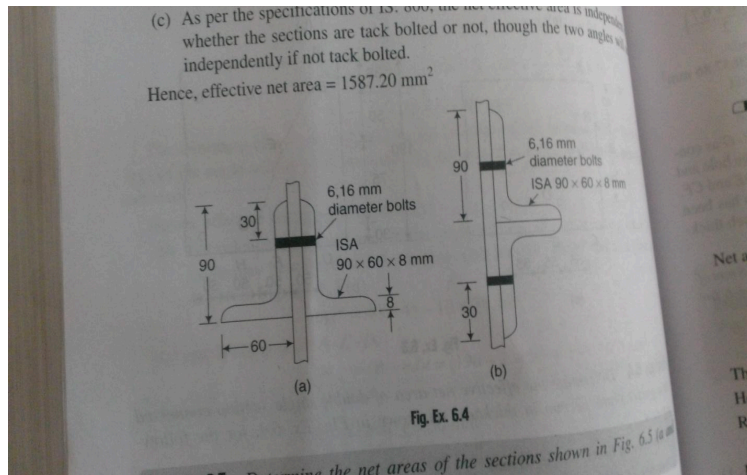


Question3- determine the effective net area of double angle section connected to a gusset plate 12mm in thickness as shown in fig for the following data

Dia of bolt=18 mm, grade of bolt =4.6

Number of bolt=6, grade of plate = fe410

Edge distance of bolt =30,fy=250



Question4- design an angle section to carry factored tensile force 250 kN. Bolts of 22 mm dia are to be provided for the connection of the member to the gusset plate. Take  $f_y = 250 \text{ N/mm}^2$  and  $f_u = 410 \text{ N/mm}^2$ . the design strength of a 20 mm diameter bolt = 46 kN.

