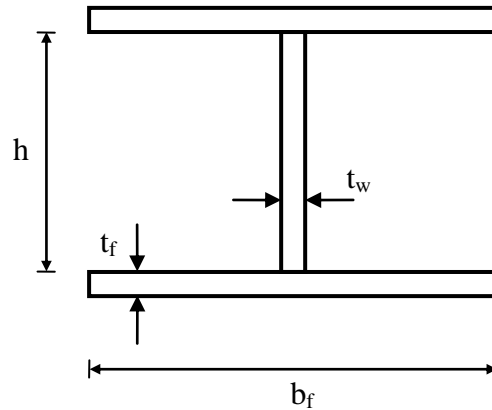


DESIGN OF STEEL STRUCTURES 2019 – 2020 Fall Semester

Homework No: 2 – Date Due: 8.11.2019

1) Determine ϕM_n for the following welded I - sections. (S235 Steel $F_y=235$ MPa) NO LTB.



Case 1 : $h = 600$ mm $t_w = 6$ mm
 $b_f = 200$ mm $t_f = 8$ mm

Case 2 : $h = 600$ mm $t_w = 6$ mm
 $b_f = 220$ mm $t_f = 4$ mm

Case 3 : $h = 600$ mm $t_w = 4$ mm
 $b_f = 150$ mm $t_f = 8$ mm

Case 4 : $h = 600$ mm $t_w = 4$ mm
 $b_f = 200$ mm $t_f = 8$ mm

2) Determine the maximum factored uniform load (W_u) that could be applied to the beam.
Beam has lateral supports at the ends. (S275 Steel $F_y=275$ MPa)

