



1. Limit states for beam-columns include:
 - a. Full Yielding
 - b. Flexural buckling
 - c. Lateral-torsional buckling
 - d. Torsional-flexural buckling
 - e. All of the above

2. Full yielding (plastic limit) of a beam-column is impacted by:
 - a. Axial force resisted
 - b. Major axis bending moment resisted
 - c. Minor axis bending moment resisted
 - d. (a), (b), and (c)
 - e. (b) and (c), but not (a)

3. True or False: For the limit state of full yielding (i.e., for a stub beam-column), the AISC interaction curve more closely matches the theoretical major axis interaction curve than the theoretical minor axis interaction curve.
 - a. True
 - b. False

4. The elastic torsional-flexural buckling strength of a beam-column is a function of:
 - a. Unbraced length, L_b
 - b. Modulus of elasticity, E
 - c. Torsional properties, J and C_w
 - d. Section properties, I_x and I_y
 - e. All of the above

5. What type of analysis did the speaker run to validate the theoretical elastic torsional-flexural buckling strength curve?
 - a. Linear buckling analysis (LBA)
 - b. Geometric nonlinear analysis (GNA)
 - c. Material nonlinear analysis (MNA)
 - d. Geometric and material nonlinear analysis (GMNIA)





6. What is the primary reason that the theoretical elastic torsional-flexural buckling strength curve differs from the curves given by AISC 360 Equation H1-1 and H1-3?
 - a. The theoretical elastic curve neglected residual stresses.
 - b. The theoretical elastic curve assumed uniform moment.
 - c. The AISC curves are limited to $0.877P/P_E$.
 - d. The AISC curves included a resistance factor.

7. What type of analysis did the speaker run to validate the theoretical inelastic torsional-flexural buckling strength curve?
 - a. Linear buckling analysis (LBA)
 - b. Geometric nonlinear analysis (GNA)
 - c. Material nonlinear analysis (MNA)
 - d. Geometric and material nonlinear analysis (GMNIA)

8. True or False: The exact B_1 factor, as derived in this presentation, equals $1/(1-P/P_e)$.
 - a. True
 - b. False

9. True or False: The requirement to consider second-order effects was not introduced in the AISC *Specification* until 2005.
 - a. True
 - b. False

10. Which of the following is correct about the factors C_m and C_b ?
 - a. C_m accounts for moment gradient effects when computing the moment amplification factor, B_1 .
 - b. C_m accounts for moment gradient effects when computing the lateral torsional buckling strength.
 - c. C_b accounts for moment gradient effects when computing the moment amplification factor, B_1 .
 - d. C_b accounts for moment gradient effects when computing the lateral torsional buckling strength.
 - e. (a) and (d)

