Fundamentals of Earthquake Engineering for Building Structures
Session 8: Building Codes – April 19, 2021
Due: April 19, 2021, 8:00 am EDT – Submit through the online form

Pick the best answer.

1) The design of structural steel building in a high seismic zone must conform to
   a) The International Building Code
   b) ASCE 7
   c) AISC 360
   d) AWS D1.1
   e) AISC 341
   f) AWS D1.8
   g) All of the above

2) Seismic Design Category is determined considering all of the following except
   a) Occupancy
   b) Seismic system
   c) Ground acceleration
   d) Soil type

3) System height limits and Seismic Design Category restrictions are given in
   a) The International Building Code
   b) ASCE 7
   c) AISC 360
   d) AWS D1.1
   e) AISC 341
   f) AWS D1.8
   g) All of the above

4) Seismic accelerations used to derive design forces can be obtained
   a) From USGS maps printed in ASCE 7
   b) From the USGS data on websites
   c) All of the above

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5) The "out-of-plane offset" horizontal irregularity
   a) Requires continuity of the load path
   b) Don't we always need continuity of the load path?
   c) Requires an increase in diaphragm shear forces
   d) All of the above
   e) None of the above

6) The "nonparallel systems" horizontal irregularity
   a) Addresses systems that are not symmetrical in plan
   b) Addresses systems in which loading in the two orthogonal directions considered independently may not be the critical condition for certain frames

7) Which is not an analysis method addressed in ASCE 7
   a) Modal response history analysis
   b) Equivalent lateral force
   c) Pushover analysis
   d) Response history analysis

8) The equivalent lateral force method is not allowed
   a) For structures with certain irregularities in higher Seismic Design Categories
   b) For very tall structures with any irregularities in higher Seismic Design Categories
   c) All of the above

9) Special diaphragm forces are required for design because
   a) Diaphragms may be more flexible than assumed
   b) Simplified vertical force distribution equations have been developed to result in proper shear and overturning demands, not in proper acceleration of mass at all levels

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10) Wind load governs over seismic load if
    a) The structure is in Seismic Design Category A, B, or C
    b) The wind-load base shear is greater than the seismic base shear
    c) Complete analyses have to be performed for both loads, including consideration of vertical distribution, amplified loads, diaphragm forces, and proportioning requirements in the case of seismic loads