



Illinois Society of Professional Engineers - University of Illinois  
College of Engineering  
Professional Engineer On-Line Seminars



**INSTRUCTIONS:**

1. View the on-line seminar.
2. Complete the quiz below.
3. Complete the "Engineer Information" section.
4. Make a copy for your records.
5. Mail the quiz along with your \$20 payment (credit card information or check payable ISPE) to:  
ISPE, 100 East Washington Street, Springfield, IL 62701.

If you score an 80% or better on the quiz, you will receive your certificate within 4 weeks. If you fail to earn an 80% score, the quiz will be returned to you and you will have the opportunity to retake it.

Each seminar/quiz is worth 1 Professional Development Hour.

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**QUIZ: 03-08**  
**Presenter:** Gregory G. Deierlein  
**Topic:** Performance Based Engineering

1. Gregory Deierlein is the deputy director of which earthquake engineering center?
  - a) MAE Center
  - b) MCEER
  - c) PEER
  - d) SCEC
2. The PEER center has how many member institutions?
  - a) 7
  - b) 9
  - c) 11
  - d) 13
3. Which of the following are limit states of a structure as defined by FEMA 356?
  - a) Operational
  - b) Life Safe
  - c) Structurally Stable
  - d) All of the above
4. FEMA's first generation documents tend to be liberal in estimation of building capacities.  
(circle)            TRUE                            FALSE
5. Which of the following are Performance Measures?
  - a) Percent of replacement cost
  - b) Casualty rate
  - c) Downtime
  - d) All of the above
6. This program was developed by PEER and may be used for analysis of soil structure interaction?
  - a) MAE Viz
  - b) OpenSees
  - c) SimCor
  - d) ZeuzNL

7. Non-Structural element can account for up to 80% of a buildings value.  
(circle)            TRUE                            FALSE
8. Performance Models link which two Methodology Components?  
a) Engineering Demand Parameter to Damage Measure  
b) Intensity Measure to Engineering Demand Parameters  
c) Damage Measure to Decision Variables  
d) Intensity Measure to Decision Variables
9. The spectral acceleration relates to which design force?  
a) Axial Compression  
b) Base Shear  
c) Bending Moments  
d) Story Drift
10. The primary source for hazard maps for the United States are from the USGS.  
(circle)            TRUE                            FALSE
11. A fragility curve is a graph of which of the following?  
a) Deformation Capacity vs Ductility  
b) Base Shear vs Bending Moment  
c) Peak Spectral Acceleration vs Fundamental Period of Structure  
d) Chance of Exceeding a Limit State vs Engineering Demand Parameters
12. Which of the following should be considered in the decision process of PBE?  
a) Economic Modeling  
b) Societal Expectations and Constraints  
c) Risk Management  
d) The Decision Arena  
e) All of the Above

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## ENGINEER INFORMATION

Name \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_ Daytime Phone \_\_\_\_\_

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