



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.

QUIZ: 03-04
TOPIC: Specialty Structural Projects
PRESENTER: Prof. Bill Iwan

1. Hysteretic behavior is sometimes displayed during cyclic loading of structural components and is an example of nonlinearity.
(circle) TRUE FALSE
2. Why try to use linear analysis for inherently nonlinear problems?
a) Linear analysis is generally understood, easy to apply, and provides useful insights into the nature of the system.
b) The response of many nonlinear systems 'appears' very similar to that of a linear system.
c) The excitation is often specified in terms of a frequency domain representation.
d) a) and b) only
e) all of the above
3. Frequency domain analysis provides useful insight into the behavior of nonlinear structures.
(circle) TRUE FALSE
4. Response spectra can be in terms of displacement or acceleration or both.
(circle) TRUE FALSE
5. The point at which the demand and capacity curves intersect is the maximum displacement or performance point of a system, and is the point of interest in the application of this method.
(circle) TRUE FALSE
6. Different points on a Capacity Spectrum Curve can best be related to
a) various expected levels of structural performance
b) different modes in the response of the structure
c) displacement at different stories of a building
d) all of the above
7. One of the main challenges in the application of the Capacity Spectrum Method (CSM) approach is the linearization of the problem/system.
(circle) TRUE FALSE

QUIZ 03-04 CONTINUED

8. Various analytical procedures, such as harmonic balance and equivalent linearization, can be used to accurately linearize earthquake response.
(circle) TRUE FALSE
9. ADRS stands for
a) alternate damping reaction structure
b) arcsine dynamic response spectrum
c) acceleration displacement response spectrum
d) none of the above
10. The old CSM method tends to over-predict demand.
(circle) TRUE FALSE
11. The proposed statistical approach for determining equivalent linear parameters, while providing more efficient results, requires a much more cumbersome design procedure.
(circle) TRUE FALSE

ENGINEER INFORMATION

Name _____
Address _____
City/State/Zip _____ Daytime Phone _____
Fax _____ E-Mail _____

Method of Payment: Check (Payable to ISPE) # _____ Visa _____ Master Card _____
Credit Card # _____ Expiration Date _____ 3-Digit Code on Card Back _____
Print Cardholder's Name _____
Address _____
City _____ State _____ Zip _____
Signature of Cardholder _____

*Mail to: Illinois Society of Professional Engineers, 100 East Washington Street, Springfield, Illinois 62701 or
Fax with credit card information to 217-528-6545.*

*Allow 3 weeks for certificate delivery. Certificate will be mailed to the address provided above.
Contact ISPE at 217-544-7424 with any questions.*