

## INTRODUCTION

An introductory short course on Spectral Analysis for Seismic Response of Structures is planned to be conducted at IIT Delhi during December 4<sup>th</sup> to December 9<sup>th</sup> 2006 under the aegis of National Programme on Earthquake Engineering (NPEEE).

In the aftermath of the Bhuj earthquake in 2001, the NPEEE was initiated with the support of the Ministry of Human Resource Development (MHRD) to develop better teaching capability in the area of Earthquake Engineering. As a part of this strategy, several short term courses are planned to be conducted, at all the resource institutes consisting of the IITs and IISc. Details of NPEEE may be found at <http://www.nicee.org/npeee>. As a resource institute for the project, this short-term course will be conducted at the Department of Civil Engineering, IIT Delhi during December 4<sup>th</sup> to December 9<sup>th</sup> 2006.

The course on Spectral Analysis for Seismic Response of Structures is specially designed for Teachers of Engineering Colleges who are involved or likely to be involved in teaching of the subject at the Undergraduate and Postgraduate levels. Recognising that Spectral Analysis for Seismic Response of Structures is an important course for seismic analysis of structures to be carried out in a more realistic way, an attempt is made to have a good combination of theory and examples

in the course. A test will be conducted at the end of the course to evaluate the value addition of the training.

## OBJECTIVES

1. To give fundamentals of the concepts and theories of spectral analysis.
2. To illustrate the theory with practical examples.

## COURSE CONTENTS

1. Elements of theory of probability, random process, fourier transform and spectral analysis.
2. Modelling of earthquake as a stationary random process.
3. Spectral analysis for SISO and MIMO (multi input multi output system).
4. Examples on Buildings, Bridges, Over ground and Buried pipelines and Dams.

## REGISTRATION FORM

1. Name: \_\_\_\_\_
2. Designation: \_\_\_\_\_
3. Mailing Address: \_\_\_\_\_  
\_\_\_\_\_
- Telephone: \_\_\_\_\_
- Fax: \_\_\_\_\_
- E-mail: \_\_\_\_\_
4. Educational qualifications: \_\_\_\_\_  
\_\_\_\_\_
5. Experience: \_\_\_\_\_  
\_\_\_\_\_
5. Motivation for attending the course and future plans: \_\_\_\_\_  
\_\_\_\_\_
6. Name of the Sponsoring Organisation/ College/University: \_\_\_\_\_  
\_\_\_\_\_
8. Boarding and Lodging required Y/N
9. Signature and date: \_\_\_\_\_

Note: In addition to this form, candidates should fill the NPEEE application form for teachers to participate in the training programme and get the recommendation of the Head of their Institution on the same.

**MAIL TO:**

**Prof. T. K. Datta / Dr. S. Bhalla**  
Coordinators  
Department of Civil Engineering  
Indian Institute of Technology Delhi  
New Delhi – 110 016

The course is planned to be conducted at the Department of Civil Engineering, IIT Delhi, which has considerable expertise in the area of Structural Dynamics and Earthquake Engineering. The Faculty of Civil Engineering who has teaching, consultancy and research experience in the subject will deliver lectures. Both theory and tutorial sessions will be conducted.

#### IMPORTANT DETAILS

- Only permanent full-time faculty of AICTE recognized engineering colleges are eligible to apply. Only 30 seats are available.
- Cancellation after registration is highly discouraged and application will be given low preference during selection for future courses.
- Candidates are eligible for III AC train fare from the nearest station on production of a copy of the ticket. Non-A/C double room accommodation will be provided on a shared basis during the workshop period.
- Last date for Registration **31 October 2006**

#### CORRESPONDENCE

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## National Programme on Earthquake Engineering Education (NPEEE)

### Short Term Course on **Spectral Analysis for Seismic Response of Structures**

Dec 4<sup>th</sup> – Dec 9<sup>th</sup> 2006



Coordinators  
**Prof. T. K. Datta / Dr. S. Bhalla**



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