11. Conferences attended in the past five years
·
12. Earthquake engineering related activities pursued by the applicant in past 5 years: (it may be attached as a separate enclosure):
13. Other activities that show interest in Earthquake Engineering
Signature:
Name:
Recommendation of the Head of the Institution
Signature:
Name:
Date:
Designation: (With Seal)

## **Other Participants**

Industries and Government departments desirous of utilizing this opportunity may depute participants at their own expense. A course fee of Rs. 10,000 (Rupees ten thousand only) in the form of crossed DD payable to "Registrar, Indian Institute of Science Bangalore 560012" should be paid by such participants. Only five participants on a first come first served basis will be selected under this category.

## For further details please contact

Prof. J. M. Chandra Kishen Department of Civil Engineering, Indian Institute of Science Bangalore – 560012 Email: chandrak@civil.iisc.ernet.in Phone: 080-2293 3117 (Office)

For more general information about NPEEE, please see

website: <a href="http://www.nicee.org/npeee">http://www.nicee.org/npeee</a>
or Email: npeee@iitk.ac.in

# Please mail applications to:

Assistant Registrar, Centre for Continuing Education Indian Institute of Science, Bangalore-560012 Tel: 080-23600911, 22932247

Fax: 080-2 3600911

Email: office@cce.iisc.ernet.in

# **Important Dates:**

Last date for receiving applications: 25<sup>th</sup> August 2006 Date for intimation of selections: 8<sup>th</sup> September 2006

## **SHORT TERM COURSE**

ON

# Earthquake Resistant Design of Concrete Structures

9-14 October, 2006

### Convener

Prof. J. M. Chandra Kishen Department of Civil Engineering

# Sponsored by

Ministry of Human Resource Development, Govt. of India, National Programme on Earthquake Engineering Education



Centre for Continuing Education INDIAN INSTITUTE OF SCIENCE BANGALORE - 560012 INDIA



#### Preamble

Earthquakes have caused vast devastation of infrastructure systems and facilities and have exposed the deficiencies in the existing design and construction practices. These disasters have created a new awareness about the disaster preparedness and mitigation. This in turn has created a demand for understanding and exposure to earthquake engineering in design and practice. In order to address this issue the Ministry of Human Resource Development (MHRD), Govt. of India has launched the National Programme on Earthquake Engineering Education (NPEEE). Its aim is to build capacity in our technical institutions particularly engineering colleges, in the subject of earthquake engineering. Several short-term courses are being conducted all over the country to meet this objective. Indian Institute of Science, Bangalore, one of the resource institutions participating in NPEEE will be conducting a short-term course on "Earthquake resistant design of concrete structures" in the month of October 2006 for engineering college teachers.

## **Participants**

Teachers of recognized engineering colleges are eligible to apply for the course. There is no fee for the course. Selected participants will be given all course materials and will be provided with free lodging in the Hoysala Guest House of IISc. The number of participants is limited to 30 for the course.

# **Objectives**

- To give an exposure to earthquake engineering.
- To introduce fundamentals of structural dynamics relevant to earthquake resistant design.
- To understand the behaviour of concrete structures during earthquakes.
- To introduce elements of design and ductile detailing of structures with reference to relevant BIS codes.

- To give exposure to seismic retrofitting strategies of concrete structures.
- To prepare candidates to emerge as resource persons to subsequently conduct teachers training program of the NPEEE.

#### **Course Contents**

Review of limit state design; Seismic resistant design philosophy – choice of form and material; Design for seismic loads – displacement and curvature ductility requirements, Ductility demand of frames using static collapse mechanism and dynamic analysis; Response spectra, elastic and inelastic spectra for MDOF structures; Variation of ductility demand over height of multistory building; Concept of soft storey; Detailing of reinforcement for specific ductility demand; Effect of confinement; BIS code based design procedures for analysis, design and ductile detailing of buildings.

# **Resource Faculty**

Prof B K Raghu Prasad, Prof Ananth Ramaswamy, Prof J M Chandra Kishen and Dr. K S Nanjunda Rao

# Travel and Stay

Return train fare by 3-tier AC and free stay on the campus of IISc will be provided for the selected out station (non-local) participants. In addition a perdiem of Rs. 150 will be provided for seven days to cover food and other expenses.

#### Venue

Short-term course will be held in the central lecture hall complex, Center for Continuing Education, Indian Institute of Science, Bangalore.

## Official Language

The official language of the short-term course will be English

Application form for teachers to participate in training programme "Earthquake Resistant Design of Concrete Structures", 9 – 14 October 2006, Indian Institute of Science, Bangalore

	Name: Designation: Name of College/Institution:				
4.	Address:				
<u>.                                      </u>				_	
5.	Pho	one (Office)	•		
0.	Phone (Office): Phone (Home):				
6.	Email:				
7.	Qualifications:				
Year		Degree	Specialization	University	
8.	Thesis titles (if applicable) M.E./ M.Tech:				
	Ph.D:				
0					
9.	Courses taught in the past five years:				
-					
10.	Sho	rt courses at	tended in the past f	ïve years:	