Workshop on
EARTHQUAKE RESISTANT PRACTICES FOR
UNDERGRADUATE STUDENTS OF ARCHITECTURE

July 07 – 12, 2013, IIT Kanpur

National Information Centre of Earthquake Engineering (NICEE) at IIT Kanpur is
committed to furthering earthquake safety in the built environment through
empowering stakeholders in the building delivery process by information sharing and
dissemination of the state of the art in earthquake engineering. NICEE has also actively
engaged in awareness, sensitization and training programmes for faculty in architecture
and civil engineering disciplines in colleges all over India through the NPEEE program
that was in operation from 2003 till 2007. The National Advisory Committee of NICEE
unanimously felt need of targeting the architecture professionals of tomorrow by
offering training modules to the students of architecture in colleges all over India. The
objective of this workshop was primarily aimed to equip the participants with the
necessary expertise to arrive at architectural designs that are inherently adequate in
resisting earthquake loads at a conceptual level.

To meet this objective, a pilot Workshop for Undergraduate students of Architecture in
Earthquake Resistant Design Practices was first offered in 2008. The workshop was a
grand success and it was decided to make it an annual event. The 6th National
Workshop was held in IIT Kanpur during July 07-12, 2013, in which 57 undergraduate
students who had completed six semesters of studies in their respective architecture
programmes, from 14 institutes representing 10 cities from all over India participated in
the 6-day workshop. The participants were selected from around 100 applications
received.

Workshop 2013

The general objective of the workshop was to sensitize the students to earthquake safety
issues and in capacity building in the basics of earthquake resistant design at a
conceptual level. It was expected that lectures and hands-on studio sessions in tackling
a design assignment will help students in internalizing earthquake resistant practices as
an integral part of their design decision making. The resource faculty for this workshop
was from architecture and structural engineering disciplines in an attempt to recreate as
closely as possible real life architectural practice. The selected participants were each
sent a NICEE publication titled “Architectural Teaching Resource Material on
Earthquake Design Concepts” authored by Murty and Charleson. The participants were
advised to go through the book before coming for the workshop.

The following faculty members, Prof. Keya Mitra, Bengal Engineering & Science
University, Shibpur, Howrah; Prof. Vasudha Gokhale, Dr. B.N. College of Architecture
for Women, Pune; Prof. Alpana Dongre, VNIT Nagpur; Prof. Meenu Varshney, MNIT
Jaipur, Jaipur; Prof. Atanu Dutta, Jorhat Engineering College, Jorhat; Prof OR Jaiswal,
VNIT Nagpur, Nagpur and Mr. Hari Kumar of GeoHazards Society, New Delhi were the resource persons of the workshop 2013.

**Design Problem**

The design brief was to Design a housing project in a hypothetical 135m x 90m site in Guwahati, located in Seismic Zone V. The workshop participants were divided into twenty seven 2 member groups and one three member group where each member was from a different institute. They were asked to develop a design proposal which should be rational in functional, structural and aesthetic terms. While the participants were encouraged to adopt innovative design approaches, the objective of this design exercise was to evaluate their understanding of earthquake resistant architecture and application of the same in a design project.

**Evaluation of Design**

Six designs that incorporated earthquake resistant features without compromising the host of other requirements such as functionality, climate, etc. were shortlisted during the initial round by a Jury Board. The Jury Board consisted of following members:

- Prof. Mahesh Tandon, CMD, Tandon Consultants & Private Limited, New Delhi
- Prof. Durgesh C. Rai, Indian Institute of Technology Kanpur, Kanpur
- Ar. Narendranath Mitra, Practicing Architect, Kolkata
- Prof. Rajeev Kacker, College of Architecture, Lucknow

The jury looked particularly for a clear understanding of structural system that would be effective in withstanding earthquake loads. The award winning designs are appended below.

**First Position**

Anam Khaliq, Babu Banarasi Das National Institute of Technology & Management, Lucknow
Prathmesh Mahadev Kubal, Visvesaraya National Institute of Technology Nagpur, Nagpur
2nd

Varun Goyal, Maulana Azad National Institute of Technology Bhopal, Bhopal
Parikshit Prakash Mudholkar, MIET, Gondia

3rd

Lakshmi Priya, Smt. Manoramabai Mundle College of Architecture, Nagpur
Himanshu Verma, School of Planning and Architecture, Bhopal

The workshop was sponsored by Computers and Structures Inc (CSI), and Atomic Energy Regulatory Board, Mumbai
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Unmesh Shrikant Kelkar, Pillai College of Architecture, New Panvel
Krishan Upadhyay, Zakir Hussain College of Engineering & Technology, Aligarh