#### F.No. 34/15/2008-EO(F) Government of India Ministry of Personnel, P.G. and Pensions (Department of Personnel and Training)

#### New Delhi, the 11th March, 2008.

Subject: A Group Training Course in Seismology, Earthquake Engineering and Disaster Mitigation to be held in Japan from 29th September, 2008 to 19th September, 2009.

. The undersigned is directed to state that the Japan International Cooperation Agency (JICA) under the Technical Cooperation Programme of the Government of Japan has invited applications for a Group Training Course in Seismology, Earthquake Engineering and Disaster Mitigation to be held in Japan from 29<sup>th</sup> September, 2008 to 19<sup>th</sup> September, 2009. The details of the programme and the application form may be drawn from Ministry of Personnel, Public Grievances and Pensions website (www.persmin.nic.in). There are 13 slots available globally.

2. The course is designed for the University graduates in Seismology, Earthquake Engineering or Seismic Disaster Mitigation, or be university graduates in Science and Technology other than above mentioned subjects with professional experience of three or more years in the field of Seismology, Earthquake Engineering or Seismic Disaster Mitigation. The candidate should be between 22 and 40 years of age, be in good health, both physically and mentally, to undergo the training, and not be serving in the military. The candidate should be well versed in advanced mathematics and have a good command of English.

3. he overall goal of the course is to mitigate earthquake disasters in developing countries(e.g. mitigation of earthquake disasters through dissemination and transfer of technologies and knowledge of seismology and earthquake engineering) and nurture of personnel who have acquired advanced technologies and knowledge in the fields of seismology and earthquake engineering and are able to establish, utilize and/or regions under consideration of their actual conditions, regulations and institutions.

4. The fellowship award covers a Round-trip air ticket between an international airport designated by JICA and Japan, Allowances for (accommodation, living expenses, outfits and shipping), expenses for JICA study tours, free medical care for participants who may fall ill after reaching Japan and expenses for programme implementation including materials.

5. The nomination details should be submitted in the JICA's prescribed proforma(A2A3) duly authenticated by the Department concerned. The application forms should be routed through the concerned Ministries/Departments/State Governments and it should also be certified by the Competent Authority that the institution is a Government institution.

6. The applications should reach the Department not later than 7<sup>th</sup> May, 2008. Nominations received after the prescribed date will not be considered. The circular inviting applications for training course is available on this Department's website (www.persmin.nic.in).

(Trishaliit Sethi Director

1. M/o Science & Technology, Technology Bhavan, New Mehrauli Raod, New Delhi.

2. M/o Earth Sciences, Block No. 12, CGO Complex, Lodhi Road, New Delhi.

3. All the State Governments/Union Territories.

 Director(Technical), NIC with the request to post the circular along with the JICA's circular on the Department's website.

S.NO. (R)



For a better tomorrow for all.

Japan International Cooperation Agency

(Government of Japan)

No. 14/GT-CP/2008

4<sup>th</sup> March, 2008

Dear Ms. Arun Prabha,

A Group Training Course in Seismology, Earthquake Engineering and Disaster Mitigation will be held in Japan from 29<sup>th</sup> September, 2008 to 19<sup>th</sup> September, 2009 under the Technical Cooperation Programme of the Government of Japan.

We are forwarding herewith six copies of the General Information Booklet on the above offer. It is requested that the following documents of the selected candidate may please be submitted to this office by  $16^{\text{th}}$  May, 2008:-

(1) The Nomination Form A2A3 together with the medical history questionnaire,

(2) The desired Inception Report

(3) The Application Materials for GRIPS/BRI Master Program

Further details are available in the General Information Booklet. It may be noted that the participants would be awarded a Master's Degree upon achieving the requirement of training. Therefore, the official copy of the diploma/degree certificate etc along with the completed Application Report and Application Materials for GRIPS/BRI Master Program are essential for screening of applications.

It is further informed that 13 slots are available globally for the above course and it would be much appreciated if you could take further necessary action and submit the nomination(s) of suitable candidate(s) to this office by the designated date.

With regards,

Yours sincerely, Asakuma) eputy Resident Representative

Encl: As stated above. Ms. Arun Prabha Under Secretary (PMU and Trg.) Department of Economic Affairs Ministry of Finance North Block New Delhi

Copy to:-

Mr. R.K. Kharb, Section Officer, Department of Personnel and Training, Ministry of Personnel, Public Grievances and Pensions, New Delhi.

JICA India Office 3A, (3rd Floor), Lotus Towers, Community Centre, New Friends Colony, New Delhi-110025. INDIA TEL: +91-11-41672580~5 FAX: +91-11-41672586 URL: http://www.jica.go.jp/



# TRAINING AND DIALOGUE PROGRAMS

**GENERAL INFORMATION ON** 

### SEISMOLOGY, EARTHQUAKE ENGINEERING AND DISASTER MITIGATION

Approved as a master's degree program by GRIPS and BRI

### <u>集団研修「地震・耐震・防災工学」</u> *JFY 2008* <Type: Leaders Training / 類型:中核人材育成型> NO. J08-00750 From Sep 2008 to Sep 2009 Phases in Japan: From Sep. 29, 2008 to Sep. 19, 2009

This information pertains to one of the Training and Dialogue Programs of the Japan International Cooperation Agency (JICA), which shall be implemented as part of the Official Development Assistance of the Government of Japan based on bilateral agreement between both Governments.

# I. Course Background and Overall Goal

Seismic disasters, which instantly take human lives, destroy houses and devastate social properties, are clearly distinguished from other natural disasters. Fires and collapse of manmade structures caused by earthquakes may accelerate human losses, to say nothing of other aspects common to all natural disasters such as heavy economic losses, difficulty of preparedness and precautions due to unpredictability, and difficulty of immediate response to damages due to sudden occurrence.

The development of technologies in Seismology and Earthquake Engineering has materialized seismic-proof living environments in developed countries such as Japan and the United States. In the meantime, the situation in developing countries has not changed, although efforts to transfer seismic technologies from developed countries have been made.

In order to improve seismic resistance of buildings in developing countries located in earthquake-prone areas, it is not enough to merely transfer knowledge and technologies of Seismology and Earthquake Engineering from developed countries. It is, however, essential to develop earthquake-related technologies applicable to each country by its own efforts, taking into consideration actual conditions and systems of the respective countries. To achieve this aim, it is also necessary to nurture human resources to be highly capable of planning, instructing, and extending seismic mitigation technologies, by combining advanced relevant technologies with administrative capability to utilize and disseminate those technologies.

This Training Course, implemented with collaboration of the Building Research Institute (BRI), aims to foster persons to have high capabilities to plan, teach, and extend technologies related to seismic disaster mitigation, through the training not only in the fields of Seismology and Earthquake Engineering, but also in the field of Seismic Disaster Mitigation Policies. <u>The curriculum of this course is approved as a master's degree program by National Graduate Institute for Policy Studies (GRIPS) and BRI.</u> Achieving required credits during the training, the participants will be awarded a Master's degree, "Master of Disaster Mitigation" by GRIPS and BRI. Accordingly this training is very demanding. <u>Applicants, with an excellent demonstrable educational and professional background, should be highly motivated and confident enough to pursue and attain the requirement of the program so that they can obtain the degree.</u>

The Overall Goal is to mitigate earthquake disasters in developing countries (e.g., mitigation of earthquake disasters through dissemination and transfer of technologies and knowledge of seismology and earthquake engineering).

# II. Course Description

### 1. Course Title (No.):

Seismology, Earthquake Engineering and Disaster Mitigation (J0800750)

### 2. Course Objective/Outcome:

Nurture of personnel who have acquired advanced technologies and knowledge in the fields of seismology and earthquake engineering and are able to establish, utilize and disseminate earthquake disaster mitigation technologies applicable to their respective countries and/or regions under consideration of their actual conditions, regulations and institutions

### 3. Course Outputs:

To achieve the above mentioned objective, participants are expected to produce the following outputs by the end of this course:

- (1) to understand fundamental theories of seismology and earthquake engineering through lectures and practices
- (2) to acquire applied techniques of seismology and earthquake engineering through lectures and practices
- (3) to acquire techniques and knowledge for earthquake disaster mitigation through lectures and practices
- (4) to understand policies for earthquake disaster mitigation through lectures and practices
- (5) to improve participants' capacities to apply techniques and knowledge learnt in lectures and practices through their studies on individual topics, and to make action plans in order to solve problems in their respective countries

### 4. Duration:

29 September, 2008 - 19 September, 2009

### 5. Total Number of Participants and Candidate Countries:

- (1) Number of Participants;
  - 13 participants The number of participants from China and El Salvador will be 2.
- (2) Candidate Countries;

China, Myanmar, Thailand, Sri Lanka, India, Pakistan, Turkey, Saudi Arabia, Mozambique, El Salvador, Peru

### 6. Eligible/Target Organization:

Organization concerning to Seismology, Earthquake Engineering and Disaster Mitigation. -Target Group-

Technical Officials, Engineers or Researchers in the fields of Seismology, Earthquake Engineering and Disaster Mitigation

### 7. Language to be used in this Course:

English

### 8. Course Program:

(1) Preparatory Phase

Every applicant accepted has to improve Inception Report (See ANNEX II) and to prepare the digital materials to present the contents of their Inception Report.

(2) Program in Japan

The course consists of lectures, practical training, field trips and individual study.

| Lectures | Practical | Field | Individual |
|----------|-----------|-------|------------|
|          | Training  | Trips | Study      |
| 40%      | 15%       | 10%   | 35%        |

|  | Seismology group (S group)   | Earthquake Engineering group (E group)   |
|--|--|--|
| Orientation  | Opening Ceremony, Interview, Guidance<br>Overview of Earthquake and Disasters  | Opening Ceremony, Interview, Guidance<br>Introduction to Seismology<br>Introduction to Earthquake Engineering<br>Computer  |
| Basic<br>Subjects<br>Related with<br>Earthquake<br>and<br>Disasters    | Information Technology Related with Earthquake<br>and Disasters I<br>-Computer (1)<br>-Mathematics for Seismology (1)<br>-Practice for Information Technology Related<br>with Earthquake and Disasters<br>Information Technology Related with Earthquake<br>and Disasters II<br>-Theory of Seismic Waves<br>-Mathematics for Seismology (3)<br>Earthquake Phenomenology I<br>-Practice on Theory of Seismic Waves<br>-Local Earthquake Analysis<br>-Analysis of Teleseismic Records<br>-Practice for Earthquake Phenomenology<br>Earthquake Phenomenology II<br>-Earthquake Phenomenology II<br>-Earthquake Focal Mechanism<br>-Seismicity and Statistics<br>-Surface Waves<br>-Crust and Upper Mantle Structure | Structural Analysis I<br>-Structural Analysis A<br>-Structural Analysis B<br>-Finite Element Method A<br>-Practice for Structural Analysis<br>Structural Analysis II<br>-Structural Analysis C<br>-Dynamic Aseismic Design<br>-Limit Analysis<br>-Soil Mechanics<br>-Soil Mechanics<br>-Soil Dynamics II<br>-Finite Element Method B<br>Structural Dynamics A, B<br>-Shaking Table Testing<br>-System Identification in Vibration Analysis<br>Structural Dynamics II<br>-Structural Dynamics II<br>-Structural Response Analysis<br>-Soil Test and Survey II<br>-Effect of Surface Geology on Seismic Motion<br>-Dynamic Soil Structure Interaction  |
| Advanced<br>Subjects<br>Related with<br>Earthquake<br>and<br>Disasters | Earthquake Circumstance I<br>-Scaling Law of Earthquake<br>-Overview for Earthquake Prediction Research<br>(1)<br>-Mathematics for Seismology (2)<br>-Computer (2)<br>-Monitoring the Earthquake Circumstance<br>(NIED, GSI, ERI +another visit)<br>-Practice for Earthquake Circumstance<br>Earthquake Circumstance II<br>-Overview for Earthquake Prediction Research<br>(2)<br>-Crustal deformation<br>-Earthquake and Plate Tectonics<br>-Earthquake Source Process  | Seismic Design I<br>-RC Structures I<br>-Steel Structures<br>-Masonry Structures<br>-Structural Testing<br>-Practice for Seismic Design<br>Seismic Design II<br>-RC Structures II, III, IV<br>-PC Structures<br>-Foundation Engineering<br>-Bridge Engineering<br>-Port and Harbor Structures<br>-Dam Structures<br>-Underground Structures  |
|  | Characteristics of Earthquake Disasters I<br>-Earthquake Observation (1)<br>-Data Processing<br>-Earthquake Information<br>(JMA +another visit 0.5day)<br>-Practice for Characteristics of Earthquake<br>Disaster<br>Characteristics of Earthquake Disasters II<br>-Geophysical Prospecting<br>-Effect of Surface Geology on Seismic Motion<br>(1)<br>-Effect of Surface Geology on Seismic Motion<br>(2)<br>-Numerical Simulation of Seismic Wave<br>Propagation<br>-Earthquake Observation (2)   | -Lifeline Earthquake Engineering         Seismic Evaluation and Retrofitting I         -Seismic Design Codes I         -Earthquake Resistant Limit State Design I         -Seismic Evaluation and Rehabilitation: buildings (2)         -Seismic Isolation         -Practice for Seismic Evaluation and Retrofitting         Seismic Evaluation and Retrofitting II         -Seismic Design Codes II         -Earthquake Resistant Limit State Design II         -Design Earthquake Ground Motion and Seismic         Force(1), (2)         -Seismic Evaluation and Rehabilitation: buildings (1)         -Structural Reliability         -Structural Response Control         -Seismic Evaluation and Rehabilitation: bridges |

#### Table.1 Contents of this course

| Earthquake      | Earthquake Hazard Assessment I                       |                   |  |
|-----------------|--|-------------------|--|
| Hazard          | -Simulation of Seismic Ground Motion (1)             |                   |  |
| and Risk        | -Soil Dynamics                                       |                   |  |
| Assessment      | -Sol Test and Survey                                 |                   |  |
|                 | -Earthquake Hazard Assessment Case Study             |                   |  |
|                 | Earthquake Hazard Assessment II                      |                   |  |
|                 | -Seismic Macro-Zonation                              |                   |  |
|                 | -Strong Motion Seismology                            |                   |  |
|                 | Earthquake Risk Assessment I                         |                   |  |
|                 | -Microtremor Observation                             |                   |  |
|                 | -Strong Earthquake Motion Observation (1)            |                   |  |
|                 | -Damage and Risk Assessment                          |                   |  |
|                 | Earthquake Risk Assessment II                        |                   |  |
|                 | -Strong Earthquake Motion Observation (2)            |                   |  |
|                 | -Earthquake Disaster Management                      |                   |  |
|                 | -Seismic Micro-zonation                              |                   |  |
|                 | -Simulation of Seismic Ground Motion (2)             |                   |  |
| Special         | -Earthquakes and Tsunami                             | Observation Tours |  |
| Topics          | -Volcano and Earthquake                              |                   |  |
|                 | -Project Cycle Management for Disaster               |                   |  |
|                 | Mitigation   |                   |  |
|                 | -Seismic Tomography                                  |                   |  |
|                 | -Deep Earth Structure                                |                   |  |
|                 | -Scattering and Attenuation                          |                   |  |
|                 | -Earthquake Geology                                  |                   |  |
|                 | -Real-time Earthquake Information                    |                   |  |
| Earthquake      | Seismic Disaster Mitigation Policy                   |                   |  |
| Disaster        | Disaster Risk Management                             |                   |  |
| Mitigation      | Dissemination for Earthquake Disaster Mitigation     |                   |  |
| Policy          | Introduction to GIS for Earthquake Disaster Mitigat  | on                |  |
| 2               | Japanese ODA Policy and Development Support re       |                   |  |
| Case Studies    | Practice of Earthquake Disaster Mitigation Policy I  |                   |  |
|                 | Practice of Earthquake Disaster Mitigation Policy II |                   |  |
|                 | Practice of Earthquake Disaster Mitigation Policy II |                   |  |
| Individual Stud | V  |                   |  |
|                 | 2  |                   |  |
|                 |  |                   |  |

### \*See ANNEXII for details

# III. Conditions and Procedure for Application

### 1. Responsibility of the Participating Countries/Organizations:

- (1) It is strongly requested for the government of the participating country and organizations concerned to nominate the applicants who fulfill the requirements for this course and have high motivation and strong commitments to address the current problems in your country/organization.
- (2) A government can nominate applicants for 2 groups at a time (ex. S group and E group)
- (3) If any of the applicants are accepted, the organizations to which the applicants belong are required to support them to focus on making Inception Report described in ANNEX II.
- (4) After the program in Japan, the organizations are desired to facilitate the participants to spread what they learned in the course to the people and organizations concerned.

### 2. Qualifications of Applicants:

Applicants should:

(1) be nominated by their government in accordance with the procedures mentioned in III 4

- (2) be university graduates in Seismology, Earthquake Engineering or Seismic Disaster Mitigation, or be university graduates in Science and Technology other than the above mentioned subjects with professional experience of three or more years in the field of Seismology, Earthquake Engineering or Seismic Disaster Mitigation
- (3) <u>be well versed in advanced mathematics</u> such as differentiation and integration, partial derivatives, differential equations, matrix, vector algebra, Fourier analysis, etc
- (4) be able to write research reports on the individual study in English
- (5) have a good command of English --- minimum TOEFL score; 79 (Internet Based Test), 213 (Computer Based Test) or 550 (Paper Based Test), or equivalent \*Applicants with these scores normally can give and understand detailed directives or instruction with technical terms
   \*\*In this course, this level should be equivalent to "good" at the question, "13. LANGUAGE PROFICIENCY" in A2A3 Form,
- (6) be over 22 and under 40 years of age
- (7) be in good health to undergo the course of training (Please be fully understand that the training over a long period like this course may pose risks to pregnancy)
- (8) not be military personnel

### 3. Required Documents:

Following items should be submitted to JICA Office (or the Embassy of Japan) by <u>May 16,</u> <u>2008.</u>

### Note; Applications without any of these 3 items will be out of the selections.

(1) Nomination Form: One (1) original and three (3) copies

Applicants should choose one of Seismology or Earthquake Engineering groups.

- (2) Application Materials for GRIPS\*/BRI\*\* Master Program (See ANNEX I) A part of Curriculum of this course is approved as a master's degree program by GRIPS and BRI. Therefore, Each applicant is required to prepare and submit all of the following materials for admission to GRIPS/BRI Master Program as written in ANNEX I
  - □ Application Form
  - □Certificate of Health
  - □Certificate of Employment
  - $\Box$  Two letters of Recommendation

□ Official Transcripts or Official Copy of Transcripts

□Official Copy of Diploma or Degree Certificate

Official Document Certifying English Proficiency

#### (3) Inception Report (See ANNEX II )

Each applicant is required to originally write and prepare a <u>typewritten</u> Inception Report by him/herself in accordance with the Instruction for the Preparation of Inception Report (see ANNEX II ).

The Inception Reports are used for screening applicants and for presentation. Each participant is required to make a 20-25 minutes presentation on Inception Report within about two weeks after the training begins. <u>Participants are recommended to bring these materials in digital forms.</u>

\*GRIPS -National Graduate Institute for Policy Studies \*\*BRI –Building Research Institute

### 4. Procedure for Application and Selection:

(1) Submission of the Documents for Selection:

Governments desiring to nominate applicants for the Course should submit (1) original Nomination Form, (2) Application Materials for GRIPS/BRI Master Program, and (3) Inception Report to JICA Office (or the Embassy of Japan) by <u>May 16, 2008</u>.

### (2) Selection:

- 1) JICA Office (or the Embassy of Japan) accepts the documents for selection, carries out the pre-screening, and send the documents to JICA TSUKUBA in charge of this course.
- 2) JICA TSUKUBA will hold a Selection Meeting with BRI in the middle of June, 2008 and decide the qualified applicants among those who fulfill the set requirements described in III.2 above.

Note: Applications without any of required documents will be out of the selections.

- 3) A committee, which consists of GRIPS and BRI, will screen the above qualified applicants academically with the Application materials such as Official Transcripts in the end of June (The schedule is undelayable).
- 4) The applicants who are accepted to participate to the Course will be decided by a faculty council of GRIPS finally.

\*\*In case the number of applicants is more than the capacity of this course, some applicants may not be accepted due to the limited number of seats even though they fulfill the requirements.

### (3) Notice of Acceptance:

The JICA office (or Embassy of Japan) will inform the applying government of acceptance or non-acceptance of nominees' application <u>no later than July 31, 2008</u>. In case of acceptance, Acceptance Agreement from GRIPS will be informed together.

### 5. Rules for Attendance:

Participants are requested to observe the following rules for attending the course:

- (1) to choose one of Seismology (S) or Earthquake Engineering (E) groups
- (2) not to bring any members of their family
- (3) to return to their home countries at the end of the Course according to the international travel schedule designated by JICA
- (4) to refrain from engaging in political activities or any form of employment for profit or gain while in Japan
- (5) to observe the rules and regulations of their place of accommodation and not to change accommodations designated by JICA
- (6) to observe the rules at the lectures and so on in the course

### 6. Certificate, Diploma and Master's Degree

- (1) Participants who have successfully completed the course will be awarded a certificate by JICA
- (2) Participants, who have successfully fulfilled requirements given by IISEE, will be awarded another certificate and a diploma by IISEE

(3) Participants, who have successfully achieved required credits, will be awarded a Master's Degree, 'Master of Disaster Mitigation', by GRIPS and BRI

# V. Administrative Arrangements

### 1. Travel to Japan:

(1)Air Ticket:

Round-trip ticket between an international airport designated by JICA and Japan will be borne by JICA.

(2) Travel Insurance:

Travel insurance is not insured by JICA.

### 2. Accommodation:

JICA will arrange the following accommodations for the participants in Japan:

Tsukuba International Center (JICA TSUKUBA)

Address: 3-6 Koyadai, Tsukuba-Shi, Ibaraki-ken, 305-0074, Japan

TEL: +81-29-838-1117, FAX: +81-29-838-1790 (81: country code for Japan, 3: area code) \*If no room is available at JICA TSUKUBA, JICA will arrange alternative accommodations for the participants.

### 3. Living Expenses:

Following expenses will be provided for the participants by JICA:

- (1) Allowances for accommodation, living expenses, outfits and shipping
- (2) Expenses for study tours; basically paid in the form of train ticket(s) or chartered bus.
- (3) Free medical care for participants who become ill after arrival in Japan (Cost related to pre-existing illness, pregnancy or dental treatment is not included)
- (4) Expenses for program implementation including materials

For more details, please see p. 9-16 of the brochure for participants titled "KENSHU-IN GUIDE BOOK", which will be given to the selected participants before (or at the time of) the pre-departure orientation.

### 4. Course Implementing Organization:

# International Institute of Seismology and Earthquake Engineering (IISEE) at Building Research Institute (BRI)

Address: 1 Tachihara, Tsukuba-Shi, Ibaraki-ken, 305-0802 Japan TEL: +81-29-879-0679, FAX: +81-29-864-6777

E-mail: <u>iisee@kenken.go.jp</u>, URL: <u>http://iisee.kenken.go.jp</u> \*\*IISEE is an organization that trains participants from earthquake-prone developing countries on Seismology and Earthquake Engineering. In 1962, the BRI established the IISEE as an institute exclusive for training in the field of seismology and earthquake engineering.

### 5. Training Course and Master's Degree Program

The curriculum of this course is approved as a master's degree program by GRIPS and BRI.

National Graduate Institute for Policy Studies (GRIPS)

Address: 7-22-1 Roppongi, Minato-ku, Tokyo, 106-8677 Japan TEL: +81-3-6439-6046, FAX: +81-3-6439-6050 E-mail: <u>admissions@grips.ac.jp</u>, URL: <u>http://www.grips.ac.jp</u>

The entrance examination fee, admission fee and tuition for the Master's Degree Program will be provided by BRI.

### 6. Pre-Departure Orientation:

A pre-departure orientation will be held at JICA Office (or Embassy of Japan) to provide the selected candidates with details on travel to Japan, conditions of the program in Japan, and other matters. Participants will see a video "Training in Japan," and receive a textbook and cassette tape, "Simple Conversation in Japanese." A brochure, the KENSHU-IN GUIDE BOOK, will be handed to each selected candidate before (or at the time of) the orientation.

# ANNEX:

- I Application Materials for GRIPS/BRI Master Program
- I Instruction for the Preparation on Inception Report
- III Syllabus of the Training Program

# Reference

Founded in 1974, the Japan International Cooperation Agency is an implementation agency for technical assistance, focusing on systems building, organization strengthening and human resource development that will enable developing countries to pursue their own sustainable socio-economic development.

The training program for overseas participants is one of JICA's main cooperation programs. Under this program, JICA invites professionals in various fields including administrative officials, engineers and technicians from developing countries to Japan and provide them with skills and technology needed in their countries as well as the chance to share knowledge and experience with participants from other countries. Through this program, participants are expected to acquire skills and technology or create knowledge, bring them back to their countries, and apply them in their workplaces or societies with necessary modifications according to their own conditions to achieve their specific objectives.

#### JICA's Mission

We, as a bridge between the people of Japan and developing countries, will advance international cooperation through the sharing of knowledge and experience and will work to build a more peaceful and prosperous world.

#### Oath of Service

With passion and pride, as professionals in development cooperation, we will perform our work responsibly and energetically with love and a sense of duty; we will encourage and support the participation of the Japanese people in our work; we will work as partners to those in need of assistance; and we will strive to fill the world with hope and happiness by promoting peace and sustainable development.

### CORRESPONDENCE

For enquires and further information, please contact the JICA office, or the Embassy of Japan. Address any other correspondence to:

Tsukuba International Center Japan International Cooperation Agency (JICA TSUKUBA) Address: 3-6 Koyadai, Tsukuba, Ibaraki, 305-0074, Japan TEL: +81-29-838-1117, FAX: +81-29-838-1790 E-mail: tbictp1@jica.go.jp

### ANNEX I

#### Application Materials for GRIPS/BRI Master Program

**Instructions:** Please read this information carefully before completing application materials for the GRIPS/BRI program.

Any false or misleading statement or incomplete or inaccurate application may be the basis for denial of screening for admission or, if admitted, dismissal from the School. All questions must be answered, and the application form must be signed and dated. You must notify the School of any changes of status in any part of your application that may occur after the date of the signature on the application form and write an explanation required thereby within 30 days of the status change. All materials submitted by an applicant become the property of GRIPS and will not be returned.

**Documents to be submitted:** Applicants are requested to submit the following documents (preferably in one complete set so as to avoid delays in further evaluation):

#### Step1: Prepare the following supporting documents:

Please check ☑ whether you have submitted all the necessary documents

- $\Box$  completed application form
- $\Box$  certificate of health
- 2 identical photographs (30 x 40 mm) (please paste one photograph on the application form)
- □ 2 letters of recommendation in sealed envelopes
- □ official certificate of employment describing applicant's <u>present</u> job title and employer. Information on civil servant qualification (e.g. BCS, IAS, IRS, CSS) should be also included there, if applicable. (The certificate of employment must bear official seal and sign obtained from the employer)
- □ official transcripts or official copies of transcripts from all undergraduate and postgraduate institutions previously attended\*
- □ official copy of diploma or degree certificate from all undergraduate and graduate institutions previously attended\*
- TOEFL/IELTS score report, or other official document certifying English proficiency of those applicants whose undergraduate education was in a language other than English (GRIPS TOEFL code no. 9040, a photocopy of your TOEFL/IELTS score report acceptable). Native speakers of English are exempted from this requirement. Those who received (under) graduate education in English should submit an official document confirming that the language of instruction was English.

#### Notes

- 1. \*Letters of recommendation must be submitted in sealed envelopes, signed across the seal. Recommendations should be written by people who have supervised the applicant either in an academic or work capacity. Preferably, one letter should be written by a university professor and the other should be written by a senior member of the applicant's present work place.
- 2. \*An official copy means a certified true copy of the original document with an official seal obtained from the administration office of the university attended. A true copy of the original document certified by a notary public may also be accepted. Copies attested by organizations/persons not having notary/legal functions will not be accepted or considered for screening.

**GRIPS/BRI** Application Document

- 3. All documents must be presented in English. Translations in English without an official seal obtained from the administration office of the university attended or without a signature of the recommender or the drawer of the document are not acceptable.
- 4. Faxed documents and digital copies sent through e-mail are not acceptable.

#### INQUIRIES

Details regarding to the graduate program may be obtained at the following websites: <u>http://www.grips.ac.jp</u> <u>http://iisee.kenken.go.jp</u>

## Disaster Management Policy Program by GRIPS and BRI In Co-operation with JICA, Japan Photographs

| Application Form   |   | Please write your<br>name on the back of |
|--|---|--|
| (Type or write in block letters)   |   | each photo                               |
|  |   | Size:30 x 40 mm                          |
| PERSONAL DATA  |   |  |
| 1. Full Nameas written in your passport.   |   |  |
| as written in your passport.   |   |  |
| Name to be used in correspondence, if different from above.                              |   |  |
| 2. Date and Country of Birth 3<br>MM/DD/YY country                                       | . Age (as of October 1 <sup>st</sup> 2008 | 3)                                       |
| WWW DD/ 11 Country   |   |  |
| 4. Gender: male female 5   | 5. Marital Status: Single                 | married                                  |
| 6. Citizenship   |   |  |
| (as written in your passport)  |   |  |
| 7. Present Employer  |   |  |
| 7. Present Employer<br>Does your organization belong to a central or regional authority? | central                                   | regional                                 |
| 8. Present Position  |   |  |
|  |   |  |
| 9. Work Address  |   |  |
|  |   |  |
|  |   |  |
| tel: fax   | email                                     |  |
| country code city code local number country code city code local num                     | mber                                      |  |
| 10. Home Address   |   |  |
|  |   |  |
|  |   |  |
|  |   |  |
| tel: fax fax country code city code local number country code city code local num        |   |  |
|  |   |  |
| 11. Present Mailing Address: home work other, namely:                                    |   |  |
|  |   |  |
|  |   |  |
|  |   |  |
| tel: fax   | email                                     |  |
| country code city code local number country code city code local num                     | mber                                      |  |

#### **APPLICATION INFORMATION**

12. List names and locations of educational institutions attended, with dates of attendance and degrees attained or expected. Please attach academic transcripts from all colleges and universities listed.

| Elementary Education – Secondary Education<br>(before higher education) | Dates (from-to) | Period of<br>Schooling |
|---|-----------------|------------------------|
|   |                 | years                  |
|   |                 | months                 |

| Higher<br>Education  | Institution and Location | Dates (from-to)<br>Month Year | Period of<br>Schooling | Degree | Major |
|--|--------------------------|-------------------------------|------------------------|--------|-------|
| Undergraduate<br>level   |                          |                               | years                  |        |       |
|  |                          |                               | months                 |        |       |
|  |                          |                               |                        |        |       |
| Graduate<br>level  |                          |                               | years<br>months        |        |       |
|  |                          |                               |                        |        |       |
| Total years of schooling<br>(including elementary and secondary education) |                          | years<br>months               |                        |        |       |

13. [Optional] Undergraduate GPA \_\_\_\_\_\_ out of maximum GPA scale of (e.g. 4.0) \_\_\_\_\_\_, if available Please see appendix for GPA calculation procedure

14. [Optional] Graduate GPA \_\_\_\_\_\_ out of maximum GPA scale of \_\_\_\_\_\_, if available

15. [Optional] Undergraduate Class obtained or Passed Division \_\_\_\_\_\_, if available

16. [Optional] Graduate Class obtained or Passed Division \_\_\_\_\_\_, if available

17. Honors and Awards received:

18. TOEFL/IELTS scores or any other qualifications to show English proficiency:

| TOEFL:   |               |                     | IELTS:  |                     |      |
|----------|---------------|---------------------|---|---------------------|------|
|          | score         | date                |   | score               | date |
| Undergra | aduate/gradua | te education instru | ucted in English (please                              | submit certificate) |      |
|          |               |                     | score report (photocopy is graduate/graduate educatio |                     |      |

19. List below two persons familiar with your past academic or professional activity whom you have requested letters of recommendation.

| 1 |      |                          |
|---|------|--------------------------|
|   | name | position and affiliation |
|   |      |                          |
|   |      |                          |
| 2 |      |                          |
|   | name | position and affiliation |

20. List all previous employment, starting with your current employment (please make sure to submit an official certificate of employment from the present employer)

| Employer and Location | Dates (to-from) | Job Title and Description |
|-----------------------|-----------------|---------------------------|
|                       |                 |                           |
|                       |                 |                           |
|                       |                 |                           |
|                       |                 |                           |
|                       |                 |                           |
|                       |                 |                           |
|                       |                 |                           |

21. Summarize your present duties and responsibilities (applicants, who are still studying but will have graduated by October, should describe their future career plans). Applicants with specific civil servant qualification and ranking (e.g. BCS, IAS, IRS, CSS) are also requested to provide the respective information. Please use only this space and pay special attention to completing this section, as it is often the principal source of information for evaluating the relevance of the program to the applicants' assignment, as well as the relative merits of each applicant.



#### GRIPS/BRI Application Document

22. Are there any other factors that you would like to have the admissions committee consider in evaluating your application (e.g. personal background, leadership role)?

#### **CERTIFICATION**

I certify that to the best of my knowledge all information given above is correct and complete, and I understand that any omission or misinformation may invalidate my admission or result in dismissal.

Signature of applicant

date

You need to submit this completed application form together with the supporting documents listed on page 1. Please use the check list to make sure that you have collected all the supporting documents.

### Disaster Management Policy Program by GRIPS and BRI In Co-operation with JICA, Japan

### **CERTIFICATE OF EMPLOYMENT**

| EMPLOYER DETAILS                                |                        |              |  |
|---|------------------------|--------------|--|
| Name of Organization:                           |                        |              |  |
| Address of Organization:                        |                        |              |  |
|   | fax                    | email        |  |
| country code city code local number             | country code city code | local number |  |
| EMPLOYEE DETAILS This is to certify that        | e of the applicant     |              |  |
| has been employed by this organization from     | to                     |              |  |
|   | MM/DD/YY               | MM/DD/YY     |  |
| Present position, rank, responsibilities, etc.: |                        |              |  |
|   |                        |              |  |

#### LEAVE OF ABSENCE APPROVAL SECTION

I will approve one year of Leave of Absence for the above employee to participate in the Disaster Management Policy program, if he/she is admitted to GRIPS and BRI.

| Name of person completing the form |      |  |
|------------------------------------|------|--|
| Position/Title:                    |      |  |
|                                    |      |  |
| Signature                          | Date |  |
|                                    |      |  |

\*Please put Official Stamp or Seal on this space.

### Disaster Management Policy Program by GRIPS and BRI In Co-operation with JICA, Japan

### LETTER OF RECOMMENDATION

TO THE APPLICANT: Complete this section. Give this form to the person whom you have asked to recommend you. Applicant's Name as written in your passport Recommender's Name TO THE RECOMMENDER: Please enclose the completed recommendation in a sealed envelope and sign it across the seal. Return the signed, sealed envelope to the applicant. If you prefer, you may write a separate letter and attach it to this form. This recommendation letter will remain confidential and will be used for the applications screening procedure only. How long have you known the applicant? \_\_\_\_\_ years \_\_\_\_\_ months 1. In what capacity have you known the applicant? 2. 3. How often have you seen him/her?  $\Box$  daily □ weekly  $\square$  monthly □ rarely 4. In comparison with other students/staff in the same field whom you have known, how would you rate the applicant's overall academic or administrative ability? Truly Exceptional (one of the best you have known) □ Outstanding (highest 5%) □ Excellent (next highest 5%)  $\Box$  Good (strong ability, but not in top 10%) □ Average (upper 50%) □ Below Average (lower 50%, but recommended) □ Not Recommended 5. Please evaluate as *excellent*, *average* or *poor*: excellent average poor Academic Performance Intellectual Potential Π Creativity & Originality Motivation for Graduate Study 6. (For university professors and instructors only) Is the academic record indicative of the applicant's intellectual ability? If no, please explain.

GRIPS/BRI Application Document

| 7.  | Discuss the applicant's competence in his/her field of study, as well as the applicant's career possibilities as a professional worker, researcher or educator. In describing such attributes as motivation, intellect, and maturity please discuss both strong and weak points. Specific examples are more useful than generalizations. | Ϊ, |
|-----|--|----|
|     |  |    |
|     |  |    |
| 8.  | Discuss the applicant's character and personality. Please comment on his/her social skills, emotional stability, leadership skills and reliability.  |    |
|     |  |    |
|     |  |    |
|     |  |    |
| 9.  | Additional comments, if any.   |    |
|     |  |    |
|     |  |    |
| 10. | How would you evaluate the applicant's overall suitability as a candidate for admission to the Graduate Progra of GRIPS and BRI ?  | ım |
|     | outstanding good average poor  |    |
| -   | Name of person completing this form  |    |
|     | Position/title   |    |
|     | Organization   |    |
|     | Address  |    |
|     | phonefaxemail  |    |
|     | Signature date   |    |
|     | uau uau  |    |

### Disaster Management Policy Program by GRIPS and BRI In Co-operation with JICA, Japan

### LETTER OF RECOMMENDATION

TO THE APPLICANT: Complete this section. Give this form to the person whom you have asked to recommend you. Applicant's Name as written in your passport Recommender's Name TO THE RECOMMENDER: Please enclose the completed recommendation in a sealed envelope and sign it across the seal. Return the signed, sealed envelope to the applicant. If you prefer, you may write a separate letter and attach it to this form. This recommendation letter will remain confidential and will be used for the applications screening procedure only. How long have you known the applicant? \_\_\_\_\_ years \_\_\_\_\_ months 1. In what capacity have you known the applicant? 2. 3. How often have you seen him/her?  $\Box$  daily □ weekly  $\square$  monthly □ rarely 4. In comparison with other students/staff in the same field whom you have known, how would you rate the applicant's overall academic or administrative ability? Truly Exceptional (one of the best you have known) □ Outstanding (highest 5%) □ Excellent (next highest 5%)  $\Box$  Good (strong ability, but not in top 10%) □ Average (upper 50%) □ Below Average (lower 50%, but recommended) □ Not Recommended 5. Please evaluate as *excellent*, *average* or *poor*: excellent average poor Academic Performance Intellectual Potential Π Creativity & Originality Motivation for Graduate Study 6. (For university professors and instructors only) Is the academic record indicative of the applicant's intellectual ability? If no, please explain.

GRIPS/BRI Application Document

| 7.  | <ol> <li>Discuss the applicant's competer<br/>professional worker, researcher of<br/>please discuss both strong and w</li> </ol> | or educator. In | describing such a     | ttributes as motivation,  | intellect, and maturity, |
|-----|--|-----------------|-----------------------|---------------------------|--------------------------|
|     |  |                 |                       |                           |                          |
|     |  |                 |                       |                           |                          |
| 8.  | <ol> <li>Discuss the applicant's character leadership skills and reliability.</li> </ol>   | and personalit  | y. Please commen      | t on his/her social skill | s, emotional stability,  |
|     |  |                 |                       |                           |                          |
|     |  |                 |                       |                           |                          |
|     |  |                 |                       |                           |                          |
| 9.  | Additional comments, if any.   |                 |                       |                           |                          |
|     |  |                 |                       |                           |                          |
|     |  |                 |                       |                           |                          |
| 10. | 0. How would you evaluate the app of GRIPS and BRI ?   | licant's overal | l suitability as a ca | indidate for admission    | to the Graduate Program  |
|     | outstanding g  | ood             | average               | poor                      |                          |
|     | Name of person completing this   | form            |                       |                           |                          |
|     | Position/title   |                 |                       |                           |                          |
|     | Organization   |                 |                       |                           |                          |
|     | Address  |                 |                       |                           |                          |
|     | phone  | fax             |                       | _email                    |                          |
|     |  |                 |                       |                           |                          |
|     | Signature  |                 |                       | date                      |                          |

#### Disaster Management Policy Program by GRIPS and BRI In Co-operation with JICA, Japan

| <b>CERTIFICATE OF HEALTH</b> (to be completed by the examining physician)<br>Please fill out (PRINT/TYPE) in English. <u>Do not leave any items blank.</u>   |           |
|--|-----------|
| □ Male Date of Birth :<br>□ Female Age :   | <u> </u>  |
| Name :   |           |
| <ol> <li>Physical Examinations         <ol> <li>(1) Heightcm, Weightkg</li> <li>(2) Blood pressuremm/Hg ~mm/Hg, Blood Type [ A B O ], [ RH +,]<br/>Pulse Rate/min, □ regular □ irregular</li> <li>(3) Eyesight : (R) (L) (R) (L) .<br/>without glasses with glasses or contact lenses</li> <li>(4) Hearing : □ normal □ impaired speech : □ normal □ impaired</li> </ol> </li> </ol> |           |
| <ol> <li>Please describe the results of physical and X-ray examinations of applicant's chest X-ray (X-ray taken more than 6 mone to the certification is NOT valid).</li> <li>Lung : □ normal □ impaired Date</li></ol>  | ths prior |
| Cardiomegaly :          □ normal □ impaired         If impaired: Electrocardiograph, □ normal □ impaired   |           |
| 3. Disease Treated at Present<br>□ Yes (Disease:) □ No   |           |
| <ul> <li>4. Past history : Please indicate with + or - and fill in the date of recovery Tuberculosis□( ), Malaria□( ), Other communicable disease□( ) Epilepsy□( ), Kidney Disease□( ), Heart Diseases□( ) Diabetes□( ), Drug Allergy□( ), Psychosis□( ), Functional Disorder in extremities□( )</li></ul>   |           |
| 5. Laboratory tests<br>Urinalysis : glucose (), protein (), occult blood ()<br>Feces : Parasite (egg of parasite) (+, -)<br>ESR :mm/Hr, WBC count :x10 <sup>3</sup> /µl, RBC :x10 <sup>6</sup> /µl,<br>Hemoglobin:g/dl, AST (GOT):u/l, ALT (GPT):u/l,  |           |
| 6. Please describe your impression.  |           |
| 7. In view of the applicant's history and the above findings, is it your observation his/her health status is adequate to pursu in Japan ? yes $\Box$ no $\Box$  | e studies |

Date: Signature: . Physician's Name in Print: . Office/Institution: . Address: .

#### Appendix

#### How to calculate your GPA

If GPA is not indicated on your transcript, take the value of the grade earned and multiply by the number of credits earned for each course. Add "total value" and divide by the "total number of credits" earned to get GPA.

#### Example:

| grade | value |   | # of credits |   | total value |
|-------|-------|---|--------------|---|-------------|
| А     | 4.0   | х | 3            | = | 12.00       |
| B-    | 2.7   | х | 4            | = | 10.80       |
| A-    | 3.7   | х | 3            | = | 11.10       |
| C+    | 2.3   | х | 3            | = | 6.90        |
| total |       |   | 13           | / | 40.80       |
| GPA   |       |   |              | = | 3.14        |

| Value of Letter Grades |     |  |
|------------------------|-----|--|
| А                      | 4.0 |  |
| A-                     | 3.7 |  |
| B+                     | 3.3 |  |
| В                      | 3.0 |  |
| B-                     | 2.7 |  |
| C+                     | 2.3 |  |
| С                      | 2.0 |  |
| C-                     | 1.7 |  |
| D+                     | 1.3 |  |
| D                      | 1.0 |  |
| D-                     | 0.7 |  |
| F                      | 0.0 |  |

### ANNEX II

#### **Instructions for the Preparation of Inception Report**

The Inception Report should be originally written by the applicant herself/himself and typewritten including items listed below. Applicants are requested to follow strictly the technical instruction shown in the next page of this General Information. It is recommendable to record the Inception Report on FD or CD and bring it to Japan.

Inception Report should include,

#### for Seismology(S) group

- 1. Geographic and geo-scientific information of your country with Maps (Tectonics, Active Faults, Seismicity, Macro-zoning study etc.).
- 2. Damaging Earthquakes or Tsunami (hypocenter, magnitude, iso-seismoals, surface faulting, damage. casuality), Catalogs, photographs etc.
- 3. Responsibilities of your organization in the national government or country.
- 4. Internal structure of your organization with the Organization Chart.
- 5. Equipments and personals of your organization(Seismic Network, Research Activities).
- 6. Analysis of Capacity (Strong and Weak points) of your organization and country (Disaster Mitigation Plan, Responsible organization, Hazard and Risk maps, Micro-zoning study.
- 7. Other organizations collaborating with yours for the seismological activities.
- 8. Your own responsibility in your organization.
- 9. Potential target of your study in the course with difficulties or obstacle for you to obtain your target with listing up the Strong and Weak points of you.
- 10 Your expectations for the course: What do you want to get in the course.

#### for Earthquake Engineering(E) group

- 1. Seismic Design Code for buildings of each country\*
- 2. Characteristics of building damage due to earthquakes in your country.
- 3. Microzoning and earthquake disaster mitigation planning of each country.
- 4. Responsibilities of your organization in the national government or country.
- 5. Internal structure of your organization with the Organization Chart.
- 6. Your own responsibility in your organization.
- 7. Potential target of your study in the course with difficulties or obstacle for you to obtain your target with listing up the Strong and Weak points of you.
- 8 Your expectations for the course: What do you want to get in the course.
- \* Applicants who do not have any seismic design code in their countries are requested to present practical measures to secure the seismic safety of buildings.

The cover page of Inception Report should include:

- (1) Name of Applicant,
- (2) Name of Organization to which Applicant belongs, namely, the affiliation,
- (3) Choice of Group (Select one of (S) or (E)).

(Ambiguous expression for the selection of group may cause a disadvantage in screening process.)

The first page of Inception Report should include:

- (4) Title and Author's Name,
- (5) Abstract,

The abstract should be informative and include the principal findings and conclusions. References to formulas or figures are not necessary. It should not be consist of more than 200 words.

#### (6) Introduction,

#### (7) Affiliation of the Author.

(Affiliation should appear as a foot note on the first page as following sample shows.)

The main part of Inception Report that starts from the second page should include:

#### (8) Topic mentioned above,

(9) "Acknowledgement" and "Appendix" after the topic if necessary.

#### (10)References,

Applicants are requested to submit attached documents including 3 items,

#### (11) Attached Document

- · Information about the structure of Organization, for example, Organization Chart,
- Research activity of Organization related to Seismology, Earthquake Engineering, or Seismic Hazard/Risk Analysis, and,
- A list of governmental or private organizations related to Seismology or Earthquake Engineering in the country of Applicant.

#### (12) Format

- **1.** The manuscript must be carefully prepared and should be submitted with A2A3 form and GRIPS application materials. The total pages of the Country Report should not exceed 15 pages including tables and figures.
- 2. Page Format: Use A4 white paper sheets (21 cm x 29.7 cm). Leave 2.5 cm margins at the top, right and left sides of the text and 3.5cm margin at the bottom. Special attention has to be paid in preparing papers using US letter-size paper. It should be appropriately arranged so that it conforms to the above requirements in appearance, namely the manuscript should occupy 16cm x 23.7cm in each page. All main text should be single spaced, Times New-Roman types. Use 18pt in capital letters and boldface for TITLE, 12pt for authors, and 11pt for the rest, including affiliations, abstract, main text, headings, sub-headings, sub-subheadings, acknowledgement, appendix, references, and captions for figures, photos and tables.
- **3. Organization of the papers:** Write the **TITLE** of your paper, centered and in 18pt capital letters and boldface types at the top of the first page. After two more line space, write your names in 12pt. Last names should be in capital. Affiliations should be cited by superscripts. Leave two lines, and then write abstract in 11pt. "**ABSTRACT**" should be in capital letters and boldface and be followed by the text of Abstract. After three lines, start main body of your paper in 11pt. The ordinary pages, starting from the second page, contain the main text from the top line. Avoid footnotes and remarks. Explain in the main text, or in Appendices, if necessary. Affiliation itself should be put at the bottom of the first page, cities, countries and e-mail addresses of all authors, as indicated above.
- 4. HEADINGS: Use at most three levels of headings, i.e., headings, subheadings and sub-subheadings. Headings shall be written in capital letters, boldface types, and centered of your text. Leave two lines space before headings and one after them. Do not indent the first line after headings, subheadings and sub-subheadings. First lines of the other text paragraphs should be indented as indicated here. Do not leave blank lines between paragraphs. Subheadings: Subheadings shall be written in lower-case letters and boldface types, right against the left side of your text, as indicated here. Leave one line space before and after subheadings. Use the above mentioned rules for indentation. Sub-subheadings: The only difference with respect to subheadings is that sub-subheadings shall be in Italic and no lines space shall be left after sub-subheadings. Don't put numbering to heading of any level.
- **5. EQUATIONS AND SYMBOLS:** Use high quality fonts for both mathematical equations and symbols. Papers with hand-written mathematical equations and symbols are not accepted. Equations should be centered and numbered. Leave one line above and below equations. The equation number, enclosed in parentheses, is placed flush right. Equations should be cited in the text as Eq. (1).
- **6. FIGURES, TABLES AND PHOTOS:** Figures and tables shall be legible and well reproducible, and photos shall be clear. Colored figures, tables and photo will be printed in Black and White. Captions shall be

written directly beneath figures and photos and above tables, and shall be numbered and cited as Figure 1, Table 1 or Photo 1. They should be written in 11pt, and centered. Long captions shall be indented. Do not use capital letter or boldface types for captions. Figures, tables and photos shall be set possibly close to the positions where they are cited. Do not place figures, tables and photos altogether at the end of manuscripts. Figures, tables and photos should occupy the whole width of a page, and do not place any text besides figures, tables and photos. Leave one line spacing above and bottom of figures, tables and photos. Do not use small characters in figures and tables. Their typing size should be at least 9pt or larger.

- 7. UNIT: Use SI unit in the entire text, figures, and tables. If other units are used, provide it in parentheses after the SI unit as 1MPa ( $10.2 \text{ kgf/cm}^2$ ).
- 8. CONCLUSIONS: Write a CONCLUSIONS section at the end of your paper, followed by ACKNOWLEDGEMENT, APPENDICES and REFERENCES.
- 9. ACKNOWLEDGMENT: Acknowledgment should follow CONCLUSIONS.
- 10. APPENDIX: Appendix should be placed between Acknowledgment and References, if any.
- 11. REFERENCE: All references should be listed in alphabetical order of the first author's family name. They are referred in the main text like (Richter 1935). Write the reference list as

Gutenberg, B., and Richter, C. F., 1954, Seismicity of the Earth and Associated Phenomena, 2nd ed. Princeton Univ. Press, Princeton, NJ.

Richter, C. F., 1935, An instrument earthquake magnitude scale, Bull. Seis. Soc. Am. 25, 1-32.

(13) Sample for Inception Report

Sample for the cover sheet

THE GROUP TRAINING COURSE SEISMOLOGY. EARTHQUAKE ENGINEERING AND DISASTER MITIGATION 2008 - 2009(COURSE ID: J-08-00750) INCEPTION REPORT

ON

- 1. Name of Applicant
- 2. Name of Organization
- 3. Choice of Group (S), (E)

Sample for the first page

| IN | TITLE OF THE INCEPTION REPORT  |
|----|--|
|    | by   |
|    | AUTHOR*  |
|    | ABSTRACT   |
|    |  |
|    | INTRODUCTION   |
|    |  |
|    | ······   |
|    | ·····  |
|    | <ul> <li>* the Author's organization and occupation are to be<br/>written here.</li> </ul> |

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#### http://iisee.kenken.go.jp/publications.htm

### ANNEX III

## Syllabus of the Training Program

S-Group (Seismology Group)

| Category                                       | Title  | Subtitle  | Contents  |
|--|--|---|---|
| Orientation                                    | Orientation  | Opening Ceremony,<br>Orientation, Interview,<br>Guidance                        | Guidance and Orientation for the Seismology Group. The facilities including PCs and Earthquake observation are introduced.  |
|  |  | Overview of Earthquake<br>and Disasters   | Introductory lectures for Seismology Group are given by staff<br>members of IISEE. Basic concepts and general scope of<br>seismology, earthquake phenomena, strong motion study and<br>seismic hazard and risk etc. are described.  |
| Basic<br>Subjects                              | Information<br>Technology Related  | Computer (1)  | Practice on FORTRAN programming for scientific computing is given using PC.   |
| Related with<br>Earthquake<br>and<br>Disasters | with Earthquake and<br>Disasters I                                       | Mathematics for<br>Seismology (1)   | Basic concepts and technique of applied mathematics used often<br>in the field of seismology are explained. Subjects include linear<br>differential equations and Fourier analysis.   |
| Disusters                                      |  | Practice for Information<br>Technology Related with<br>Earthquake and Disasters | Specific tasks and subjects on Information Technology Related<br>with Earthquake and Disasters are given considering interests and<br>backgrounds of participants.  |
|  | Information<br>Technology Related<br>with Earthquake and<br>Disasters II | Theory of Seismic Waves   | Basic expressions for strain and stress relations are induced from<br>the fundamental concept of the property of elasticity.<br>Mathematical background of the theory of elasticity is discussed<br>from the standpoint of specific problems such as equilibrium<br>conditions, strain energy and transmissions of elastic waves.<br>Reflection and refraction of plane waves are explained. P and S<br>waves velocity distribution is discussed. |
|  |  | Mathematics for<br>Seismology (3)   | Practice of applied mathematics used often in the field of seismology is given.   |
|  | Earthquake<br>Phenomenology I  | Practice on Theory of<br>Seismic Waves  | This practice is presented for understanding the lecture, "Theory<br>of Seismic Waves" through practices. We use TauP Toolkit<br>developed at University of South Carolina for practices of global<br>scale problems.   |
|  |  | Local Earthquake Analyses   | Analyses of seismograms obtained by local networks, e. g.,<br>Wadati diagram, particle motion, apparent velocity, hypocenter<br>determination, and magnitude.   |
|  |  | Analyses of Teleseismic<br>Records  | Analyses of seismograms obtained by local networks are<br>explained. That is Wadati diagram, particle motion, apparent<br>velocity, hypocenter determination, and magnitude.  |
|  |  | Practice for Earthquake<br>Phenomenology  | Specific tasks and subjects on Practice for Earthquake<br>Phenomenology are given considering interests and backgrounds<br>of participants.   |
|  | Earthquake<br>Phenomenology II   | Earthquake Focal<br>Mechanism   | Analysis and Practical training in finding fault plane solutions is<br>conducted by using seismic wave.   |
|  |  | Seismicity and Statistics   | Fundamental concepts on seismic activity and earthquake statistics including prediction-oriented method analysis.   |
|  |  | Surface Waves   | Crust and upper mantle structure inferred from surface wave methods will be explained.  |
|  |  | Crust and Upper Mantle<br>Structure   | Crust and upper mantle structure inferred from explosion seismic<br>and surface methods are explained.  |
| Advanced<br>Subjects                           | Earthquake<br>Circumstance I   | Scaling Law of Earthquake   | The scaling relations of earthquakes are discussed on the base of the dynamics of earthquake source.  |
| Related with<br>Earthquake                     |  | Overview for Earthquake<br>Prediction Research (1)                              | Research works for predicting earthquakes are reviewed and a future direction of the subject is presented.  |
| and<br>Disasters                               |  | Mathematics for<br>Seismology (2)   | Basic concepts and technique of applied mathematics used often<br>in the field of seismology are explained. Subjects include matrix<br>algebra and vector analysis.   |
|  |  | Computer (2)  | Practice on UNIX and GMT is given using PC.   |

|                            |  | Monitoring the Earthquake                              | Observation trips to institutes which have observational   |
|----------------------------|--|--|--|
|                            |  | Circumstance   | networks to monitor earthquakes will be are conducted.   |
|                            |  | Practice for Earthquake<br>Circumstance                | Specific tasks and subjects on Practice for Earthquake<br>Circumstance are given considering interests and backgrounds<br>of participants.   |
|                            | Earthquake<br>Circumstance II                    | Overview for Earthquake<br>Prediction Research (2)     | Research works for predicting earthquakes are reviewed<br>and a future direction of the subject is presented.  |
|                            |  | Crustal Deformation                                    | Introductory course of crustal deformation including geodetic<br>survey and continuous measurement with special references to<br>the problems on modeling of earthquake and volcanic events<br>and earthquake forecasting.   |
|                            |  | Earthquake and Plate<br>Tectonics                      | The basic concept of plate tectonics is presented. Methods to obtain plate motions are described.  |
|                            |  | Earthquake Source Process                              | Basic models and conceptions of earthquake source processes<br>are provided. The following three subjects: 1) how to describe<br>an earthquake source mathematically, 2) how to synthesize<br>body waves generated from the source, 3) how to determine the<br>model parameters are explained.                               |
|                            | Characteristics of<br>Earthquake Disasters<br>I  | Earthquake Observation (1)                             | Basic theory of seismometers is explained. A method for<br>calibration of conventional type of short period seismometer is<br>presented with a practical training.   |
|                            |  | Data Processing  | Theory and practice of the least squares method used for<br>seismological analyses and those of Discrete Fourier transform<br>and digital filter are introduced.   |
|                            |  | Earthquake Information                                 | Theory and Practice on HTML for public provision of earthquake and disaster information and related topics.  |
|                            |  | Practice for Characteristics<br>of Earthquake Disaster | Specific tasks and subjects on Practice for Characteristics of<br>Earthquake Disaster are given considering interests and<br>backgrounds of participants.  |
|                            | Characteristics of<br>Earthquake Disasters<br>II | Geophysical Prospecting                                | Principles of seismic refraction and reflection and their<br>applications to the real field are discussed. Field Practice is<br>given.   |
|                            |  | Effect of Surface Geology<br>on Seismic Motion (1)     | Effects of surface geology on seismic motion (ESG) are<br>explained by showing results of ground motion case studies:<br>amplification mechanisms of seismic waves, actual examples of<br>site amplifications at sites with various site conditions, relations<br>with earthquake damage.                                    |
|                            |  | Effect of Surface Geology<br>on Seismic Motion (2)     | Subsurface explorations and strong motion synthetic techniques are explained in detailed.  |
|                            |  | Numerical Simulation of<br>Seismic Wave Propagation    | Basic theory of seismic wave propagation and numerical<br>methods for solving the elastic equations are explained.<br>Seismic wave propagation is demonstrated by animation made<br>by computer. Practice on the numerical simulation is given by<br>using PC.   |
|                            |  | Earthquake Observation (2)                             | Data acquisition and seismic telemetry systems will be explained   |
| Earthquak<br>e Hazard      | Earthquake Hazard<br>Assessment I                | Simulation of Seismic<br>Ground Motion (1)             | Method to estimate the strong ground motion at the engineering<br>bedrock based on the empirical formulas is explained.  |
| and Risk<br>Assessmen<br>t |  | Soil Dynamics  | Fundamental properties of soil such as non-linearity and<br>constitutive law are reviewed. Dynamic behavior of soil<br>deposits and analytical method are explained with evaluation of<br>material constants. Liquefaction of sand deposits will be<br>discussed and countermeasures against liquefaction are<br>introduced. |
|                            |  | Soil Test and Survey                                   | Geotechnical field investigation and laboratory testing methods<br>are discussed in this lecture. An emphasis will be placed on<br>providing the information about currently used practical<br>methods.  |
|                            |  | Earthquake Hazard<br>Assessment Case Study             | Specific tasks and subjects on Earthquake Hazard Assessment are given considering interests and backgrounds of participants.   |

|                                       | Earthquake Hazard<br>Assessment II         | Seismic Macro-zonation                      | Seismic Hazard Assessment is discussed, that is an estimation<br>of the likelihood of an earthquake occurrence and its magnitude<br>in and around the location of interest and of the severity of<br>strong ground motions expected for a certain return period.  |  |
|---------------------------------------|--|---|---|--|
|                                       |  | Strong Motion Seismology                    | Strong-motion seismology is concerned with high frequency<br>seismic waves from large earthquakes. Its ultimate goal is to<br>predict strong ground motion from the basic understanding of<br>fault mechanics and seismic wave propagation in the Earth.  |  |
|                                       | Earthquake Risk<br>Assessment I            | Microtremor Observation                     | Practice in the field and analysis are introduced for microtremor<br>that is one of the useful informants to evaluate the<br>characteristics of earthquake ground motion.   |  |
|                                       |  | Strong Earthquake Motion<br>Observation (1) | General procedures and system of a strong-motion earthquake<br>observation are presented. Participants are introduced to the<br>principle of strong-motion accelerometers (SMAC), data<br>acquisition systems and data analysis procedures.   |  |
|                                       |  | Damage and Risk<br>Assessment               | Topics related on Risk and Damage Assessment for buildings<br>are given through lectures and observation visits.  |  |
|                                       | Earthquake Risk<br>Assessment II           | Strong Earthquake Motion<br>Observation (2) | Application of strong earthquake ground motion to seismic-<br>resisting design is explained.  |  |
|                                       |  | Earthquake Disaster<br>Management           | Worldwide view and the new trend of earthquake disaster management are explained.   |  |
|                                       |  | Seismic Micro-zonation                      | This lecture gives an introduction to seismic micro-zoning<br>technique by presenting the methods to estimate the distribution<br>of the local and regional seismic hazard, explaining the<br>preparation process of seismic scenarios, describing the<br>applications of micro-zoning results, and discussing the future<br>of micro-zoning. Various examples of actual studies are also<br>presented. |  |
|                                       |  | Simulation of Seismic<br>Ground Motion (2)  | Method to estimate the strong ground motion at the ground<br>surface by the hybrid Green7s function method is explained.  |  |
| Special<br>Topics                     | Earthquakes and Tsunami                    |   | Basic concept and overview of tsunamis, including tsunami generation, propagation and tsunami warning and hazard reduction systems.   |  |
|                                       | Volcano and Earthquake                     |   | Physical processes of magma generation, upward transfer and<br>eruptions of magma are described. Examples of observational<br>evidences of the existence of magma reservoir volcanoes are<br>given. Discussion is focused on the method of volcano<br>surveillance with special emphasis on the observation and nature<br>of volcanic earthquakes and tremors.  |  |
|                                       | Project Cycle Manage                       | ement for Disaster Mitigation               | Methodology and practice for Project Management Cycle and its facilitation techniques.  |  |
|                                       | Seismic Tomography<br>Deep Earth Structure |   | Theory and application of seismic tomography in local, regional,<br>and global scales are explained. Practice on computer is also<br>given.   |  |
|                                       |  |   | Seismology is an effective tool to investigate the Earth's interior.<br>The Earth's physical properties revealed by seismology, such as<br>the distribution of seismic velocities and density within the<br>Earth, are explained in this lecture.   |  |
|                                       | Scattering and Attenua                     | ation                                       | Stochastic modeling and measurement of small-scale<br>heterogeneities and intrinsic attenuation of seismic waves in the<br>crust will be explained.   |  |
|                                       | Earthquake Geology                         |   | Geological subjects related to earthquake prediction, hazard assessment and countermeasures.  |  |
|                                       | Real-time Earthquake Information           |   | Basic theory of earthquake early warning (EEW) system is<br>explained. Demonstrations of EEW using real focal parameters<br>are presented.  |  |
| Earthquak<br>e Disaster<br>Mitigation | Seismic Disaster Miti                      | gation Policy                               | Disaster mitigation policy and seismic risk management of national level are discussed with practical system and laws.  |  |
| Policy                                | Disaster Risk Management                   |   | A broad understanding of disaster risk management, including<br>prevention / preparedness before disasters and recovery /<br>reconstruction after disasters is provided.  |  |

|                  | Dissemination for Ear                                       | thquake Disaster Mitigation           | Dissemination process for Earthquake Disaster Mitigation in Japan is explained through observation visits.  |  |  |
|------------------|---|---------------------------------------|---|--|--|
|                  | Introduction to GIS for Earthquake Disaster<br>Mitigation   |                                       | Basics and conceptions of Geographical Information System<br>(GIS) are explained through lecture and practice using free GIS<br>software.   |  |  |
|                  | Japanese ODA Policy<br>related with Disaster I              | and Development Support<br>Mitigation | Japanese ODA policy and implementation and the international trend of development assistance related with disaster mitigation activities, e.g., poverty and gender issues are explained.  |  |  |
| Case<br>Studies  | Practice of<br>Earthquake Disaster<br>Mitigation Policy I   | Study Trip (1)                        | Study trip to Northern part of Japan (Hokkaido and/or Tohoku) for a week.   |  |  |
|                  | Practice of<br>Earthquake Disaster<br>Mitigation Policy II  | Colloquium                            | <ul><li>Three colloquium are planned</li><li>1) for the report on the seismic observation and its results in the countries of each participant,</li><li>2) for the practice of reading a scientific paper, and,</li><li>3) for explaining the plan of individual study.</li></ul>   |  |  |
|                  |   | Observatory Practice                  | Seismic array observation is explained in the Matsushiro<br>Seismological Observatory, Japan Meteorological Agency. The<br>practical training of the analysis of array data is carried out.   |  |  |
|                  | Practice of<br>Earthquake Disaster<br>Mitigation Policy III | Study Trip (2)                        | Study trip to Western part of Japan (Kansai and/or Hiroshima) for a week.   |  |  |
| Individual Study |   |                                       | About three months in the end of the training period are<br>assigned for individual study, in which each participant makes a<br>research on a specific subject and write a paper under the<br>direction of an instructor. The subject and the instructor for<br>individual study are decided through discussion with the IISEE<br>teaching staff. |  |  |

| E- Group (Earthquake Engineering G | Group) |
|------------------------------------|--------|
|------------------------------------|--------|

| Category   | Title                 | Subtitle                                  | Contents   |
|--|-----------------------|---|--|
| Orientation  |                       | Opening Ceremony,<br>Interview, Guidance  | Guidance and Orientation for the Earthquake Engineering<br>Group. The facilities including PC Lab. in IISEE are<br>introduced.   |
|  |                       | Introduction to<br>Seismology             | An introduction of seismology to engineers, focusing on basic<br>understanding of the physics of earthquakes including a new<br>direction of earthquake research after the 1995 Kobe<br>earthquake.  |
|  |                       | Introduction to<br>Earthquake Engineering | Basic concepts and real facts of the 1995 Kobe earthquake, as an introductory lecture for engineering course.  |
|  |                       | Computer                                  | The lecture introduces the computer environment at IISEE and<br>the usage. Participants practice the computer programming of<br>basic numerical analysis in the engineering field. Visualizing<br>technique of numerical results using commercial soft wares is<br>also explained in the lecture.  |
| Basic<br>Subjects<br>Related<br>with<br>Earthquake<br>and<br>Disasters | Structural Analysis I | Structural Analysis A,B                   | Fundamental concepts and principles which are utilized in the<br>current structural analysis are introduced in the matrix algebra<br>language. The displacement method and the force method with<br>some extension to the finite element method and the elastic-<br>plastic analysis of structures are discussed in some detail.<br>Fundamental theories for non-linear analyses of building<br>structures are introduced. Some member models and basic<br>concepts of the direct stiffness method are discussed. These<br>theories are also learned with some exercises using available<br>software in IISEE. |

|                        | Finite Element Method<br>A                  | <ol> <li>Basic concepts of finite element method</li> <li>Procedures for static linear analysis</li> <li>Formulation of some elements' matrices</li> <li>Example programs</li> </ol>   |
|------------------------|---|--|
|                        | Practice for Structural<br>Analysis         | Specific tasks and subjects on Structural Analysis are given considering interests and backgrounds of participants.  |
| Structural Analysis II | Structural Analysis C                       | Fundamental concepts and principles which are utilized in the<br>current structural analysis are introduced in the matrix algebra<br>language. The displacement method and the force method with<br>some extension to the finite element method and the elastic-<br>plastic analysis of structures are discussed in some detail.<br>Fundamental theories for non-linear analyses of building<br>structures are introduced. Some member models and basic<br>concepts of the direct stiffness method are discussed. These<br>theories are also learned with some exercises using available<br>software in IISEE. |
|                        | Dynamic Aseismic<br>Design                  | Dynamic aseismic design procedure is introduced. Problems<br>frequently occur during the design of high-rise building are<br>presented with some examples.   |
|                        | Limit Analysis                              | Fundamentals of plastic analysis of structures are presented.<br>Elementary technique to calculate the collapse loads of<br>structures are also presented.   |
|                        | Soil Mechanics                              | This lecture covers an introduction to fundamental soil<br>mechanics which will give the basis for understanding dynamic<br>behaviors of soil and foundation.  |
|                        | Soil Dynamics II                            | Fundamental properties of soil such as non-linearity and<br>constitutive law are reviewed. Dynamic behavior of soil<br>deposits and analytical method are explained with evaluation<br>of material constants.  |
|                        | Finite Element Method B                     | <ol> <li>Application of FEM to RC Structures : Analytical<br/>Techniques of Shear in Reinforced Concrete Structures by<br/>FEM</li> <li>Finite Element Analysis of Reinforced Concrete Structures<br/>in Japan</li> <li>Finite Element Analysis of RC Members with High Strength<br/>Materials Panels, Shear Walls, Beams, Columns and Beam-<br/>Column Joints</li> <li>Shear Resisting Mechanisms of RC Members Based on<br/>FEM Analysis</li> <li>Finite Element Analysis of Masonry Structures</li> </ol>   |
| Structural Dynamics I  | Structural Dynamics<br>A, B                 | The objective of this subject is to study the behavior of<br>structures by dynamic loadings. The lecture covers the SDOF<br>(single-degree-of-freedom) system to the MDOF (multi-<br>degree-of-freedom) system. The deterministic procedure is<br>discussed in detail with exercises.<br>This lecture covers the spectrum analysis of time-history data<br>of building response. The data obtained by both strong<br>earthquake observation and micro-tremor measurement are<br>used.  |
|                        | Shaking Table Testing                       | General concept of structural dynamic test is introduced.<br>Simple shaking table test and free vibration test are practically<br>performed using a small single mass model. Data processing<br>technique is also discussed through the practice.  |
|                        | System Identification in Vibration Analysis | This subject introduces several system identification methods<br>to determine structural characteristics such as natural periods<br>and damping ratios from measuring data of buildings.   |

|  | Structural Dynamics II | Structural Response<br>Analysis                   | Inelastic earthquake response analyses using SDOF systems<br>with various kind of hysteresis models and introduction of<br>some applications using inelastic earthquake response<br>analyses.<br>Member models and structural idealization which are utilized<br>in the current nonlinear structural analysis of buildings are<br>outlined. Examples of dynamic and nonlinear analysis of<br>reinforced concrete structures are presented. Methods for the<br>theoretical interpretation on the results from the numerical<br>analysis are introduced. |
|--|------------------------|---|--|
|  |                        | Soil Test and Survey II                           | Some common methods on the field survey of soil deposits and laboratory tests are introduced.  |
|  |                        | Effect of Surface<br>Geology on Seismic<br>Motion | Effects of surface geology on seismic motion (ESG) are<br>explained by showing results of ground motion case studies:<br>amplification mechanisms of seismic waves, actual examples<br>of site amplifications at sites with various site conditions,<br>relations with earthquake damage.  |
|  |                        | Dynamic Soil Structure<br>Interaction             | The physical meaning of dynamic Soil-Structure Interaction<br>(SSI) and the influences of SSI on dynamic behaviors of<br>structure are explained first. Next, Numerical procedures for<br>evaluating SSI analysis for raft and pile foundation are<br>instructed. Finally, the practical seismic design analysis<br>methods are shown incorporating SSI effects.   |
| Advanced<br>Subjects<br>Related<br>with<br>Earthquake<br>and | Seismic Design I       | RC Structures I                                   | The structural performance from cracks to collapse about the RC members will be predicted by using some equations. The prediction will be made by the equations for designs.   |
| Disasters  |                        | Steel Structures                                  | Outline of the design procedure for steel building structures in Japan will be explained.  |
|  |                        | Masonry Structures                                | The lecture covers an introduction to Performance of<br>Masonry-based Structures and seismic design. The lecture<br>covers an introduction to structural performance and seismic<br>design of Confined Masonry structures, which has been studied<br>as a research projects in BRI. It also includes housing<br>construction conditions in the Third World Countries and their<br>comparison with Japan's.   |
|  |                        | Structural Testing                                | Objectives, testing techniques, loading and measuring<br>techniques are presented with some examples of the previous<br>tests. Static tests for RC members are also conducted to<br>observe structural performance.  |
|  |                        | Practice for Seismic<br>Design                    | Specific tasks and subjects on Seismic Design are given considering interests and backgrounds of participants.   |
|  | Seismic Design II      | RC Structures B                                   | Detailed structural design procedure of reinforced concrete<br>members for flexure, shear and bond will be lectured. Design<br>practice of RC members according to the presented design<br>procedure will be conducted.  |
|  |                        | RC Structures C, D                                | The recent research topics in Japan including performance<br>based design, Composite/Hybrid Structures, New RC (High<br>Rise RC structure with High Strength materials), and Boxed<br>Wall-Buildings will be presented.<br>Outline of the seismic design procedure in accordance with the<br>Japanese codes will be presented. The related codes in U.S.<br>and New Zealand and the design guidelines currently proposed<br>in Japan will also be introduced.  |
|  |                        | PC Structures                                     | The earthquake resistant design of prestressed concrete and the application of prestressed concrete in primary seismic resistant elements such as building frames are presented.   |

|   | Foundation Engineering  | Design concept and design procedures for static and<br>earthquake loads for several types of foundation i.e. pile,<br>spread and caisson foundations are presented. Furthermore<br>their characteristics, construction methods, selection<br>procedures, repairing methods, etc. will be explained.  |
|---|---|--|
|   | Bridge Engineering  | Problems related to "Earthquake and Bridge" are discussed.<br>Each section will be accompanied with a general introduction<br>which may be necessary for those who are not familiar with<br>bridge engineering.  |
|   | Port and Harbor   | Earthquake resistant design for port and harbor structures w   |
|   | Structures  | be explained with some examples of actual earthquake dama  |
|   | Dam Structures  | The types of dams including concrete arch, gravity, and<br>embankment dams will be explained first. Next, design<br>concepts of each type will be given. The design of dams to<br>resist earthquakes will be discussed with the performance of<br>dams during earthquakes, dynamic properties of dam materia<br>and analysis. Particularly, behavior of dams during the 1995<br>Hyogoken-Nanbu Earthquake (Kobe Earthquake) and the 20<br>Western Tottori Prefecture Earthquake will be explained. |
|   | Underground Structures  | <ol> <li>Damage to buried structures (tunnels, pipelines, etc.)</li> <li>Observation of earthquake response of buried structures</li> <li>Earthquake resistant design of buried structures and future<br/>problems</li> <li>Other topics</li> </ol>  |
|   | Lifeline Earthquake<br>Engineering                              | This lecture covers damage and functional loss of lifeline<br>systems due to urban earthquakes. Recent earthquake<br>countermeasure technologies, e.g., real-time damage<br>assessments, are also introduced.  |
| Seismic Evaluation and<br>Retrofitting I  | Seismic Design Codes I  | Participants will investigate the design concept and methods<br>the selected seismic codes in the world. Presentation and<br>discussion will be given for comparison of the surveyed code<br>Differences in each code will be discussed.   |
|   | Earthquake Resistant<br>Limit State Design I                    | The lecture covers an introduction to fundamental energy in<br>concept which will give better understanding of the dynamic<br>behavior of buildings.   |
|   | Seismic Evaluation and<br>Rehabilitation: buildings<br>(2)      | Seismic capacity evaluation and seismic rehabilitation (retro<br>of existing buildings are introduced with emphasis on our<br>practice after the 1995 Kobe Earthquake. Inspection and<br>evaluation of earthquake damage to buildings and post-<br>earthquake countermeasures for damaged buildings are also<br>introduced.  |
|   | Seismic Isolation   | Seismic isolation system will be explained as one of structur<br>response control methods. The Seismic isolation system is<br>most effective to reduce the response and improve safety of a<br>superstructure. Principles of the seismic isolation, merits and<br>demerits of the seismic isolation, and behaviors of buildings<br>with the seismically isolated buildings during earthquake wi<br>be discussed.   |
|   | Practice for Seismic<br>Evaluation and<br>Retrofitting          | Specific tasks and subjects on Seismic Evaluation and<br>Retrofitting are given considering interests and backgrounds<br>participants.   |
| Seismic Evaluation and<br>Retrofitting II | Seismic Design Codes II   | Participants will investigate the design concept and methods<br>the selected seismic codes in the world. Presentation and<br>discussion will be given for comparison of the surveyed code<br>Differences in each code will be discussed.   |
|   | Earthquake Resistant<br>Limit State Design II                   | The lecture covers an introduction to fundamental energy in<br>concept which will give better understanding of the dynamic<br>behavior of buildings.   |
|   | Design Earthquake<br>Ground Motion and<br>Seismic Force (1) (2) | Seismic design code of Japan is introduced. Some internation<br>seismic design codes are also introduced and compared with<br>each other.  |

|                                  |                                    | Seismic Evaluation and<br>Rehabilitation: buildings<br>(1) | Seismic capacity evaluation and seismic rehabilitation (retrofit)<br>of existing buildings are introduced with emphasis on our<br>practice after the 1995 Hyogoken-nanbu (Kobe) Earthquake.<br>Inspection and evaluation of earthquake damage to buildings<br>and post-earthquake countermeasures for damaged buildings<br>are also introduced. |
|----------------------------------|------------------------------------|--|---|
|                                  |                                    | Structural Reliability                                     | Introduction to reliability concept. Probability<br>of failure as a measure for the safety degree.<br>Extreme value distributions as probability model<br>for load intensity. Load and resistance factor<br>format based on the second moment reliability.<br>Target safety degree due to the optimum<br>reliability.                           |
|                                  |                                    | Structural Response<br>Control                             | Basic theory on structural seismic response control and its practical applications in Japan   |
|                                  |                                    | Seismic Evaluation and<br>Rehabilitation: bridges          | Damage of bridges by the past   |
|                                  |                                    |  | earthquakes in Japan is presented.  |
|                                  |                                    |  | The Japanese highway bridge codes have been<br>revised by analyzing the seismic damage. The<br>history of the revision of the codes is briefly<br>explained. Repair of damaged highway structures<br>due to the 1995 Kobe Earthquake and seismic<br>retrofit of the existing bridges are shown.   |
| Earthquake                       | Earthquake Hazard                  | Simulation of Seismic                                      | Method to estimate the strong ground motion at the  |
| Hazard and<br>Risk               | Assessment I                       | Ground Motion I  | engineering bedrock based on the empirical formulas is explained.   |
| Assessment                       |                                    | Soil Dynamics I  | Fundamental properties of soil such as non-linearity and<br>constitutive law are reviewed. Dynamic behavior of soil<br>deposits and analytical method are explained with evaluation<br>of material constants.   |
|                                  |                                    | Soil Test and Survey I                                     | Geotechnical field investigation and laboratory testing methods<br>are discussed in this lecture. An emphasis will be placed on<br>providing the information about currently used practical<br>methods.   |
|                                  |                                    | Earthquake Hazard<br>Assessment Case Study                 | Specific tasks and subjects on Earthquake Hazard Assessment<br>are given considering interests and backgrounds of<br>participants.  |
|                                  | Earthquake Hazard<br>Assessment II | Seismic Macro-Zonation                                     | Seismic Hazard Assessment is discussed, that is an estimation<br>of the likelihood of an earthquake occurrence and its<br>magnitude in and around the location of interest and of the<br>severity of strong ground motions expected for a certain return<br>period.   |
|                                  |                                    | Strong Motion<br>Seismology                                | Strong-motion seismology is concerned with high frequency<br>seismic waves from large earthquakes. Its ultimate goal is to<br>predict strong ground motion from the basic understanding of<br>fault mechanics and seismic wave propagation in the Earth.  |
| Earthquake<br>Hazard and<br>Risk | Earthquake Risk<br>Assessment I    | Microtremor<br>Observation                                 | Practice in the field and analysis are introduced for<br>microtremor that is one of the useful informants to evaluate the<br>characteristics of earthquake ground motion.   |
| Assessment                       |                                    | Strong Earthquake<br>Motion Observation I                  | General procedures and system of a strong-motion earthquake<br>observation are presented. Participants are introduced to the<br>principle of strong-motion accelerometers (SMAC), data<br>acquisition systems and data analysis procedures.   |
|                                  |                                    | Damage and Risk<br>Assessment                              | Topics related on Risk and Damage Assessment for buildings are given through lectures and observation visits.   |
|                                  | Earthquake Risk<br>Assessment II   | Strong Earthquake<br>Motion Observation II                 | Application of strong earthquake ground motion to seismic-<br>resisting design is explained.  |

|                        |  | Earthquake Disaster<br>Management         | Worldwide view and the new trend of earthquake disaster management are explained.   |
|------------------------|--|---|---|
|                        |  | Seismic Micro-Zonation                    | This lecture gives an introduction to seismic micro-zoning<br>technique by presenting the methods to estimate the<br>distribution of the local and regional seismic hazard,<br>explaining the preparation process of seismic scenarios,<br>describing the applications of micro-zoning results, and<br>discussing the future of micro-zoning. Various examples of<br>actual studies are also presented. |
|                        |  | Simulation of Seismic<br>Ground Motion II | Method to estimate the strong ground motion at the ground<br>surface by the hybrid Green7s function method is explained.  |
| Earthquake<br>Disaster | Seismic Disaster Mitigati                                    | on Policy                                 | Disaster mitigation policy and seismic risk management of national level are discussed with practical system and laws.  |
| Mitigation<br>Policy   | Disaster Risk Manageme                                       | nt  | A broad understanding of disaster risk management, including<br>prevention / preparedness before disasters and recovery /<br>reconstruction after disasters is provided.  |
|                        | Dissemination for Earthq                                     | uake Disaster Mitigation                  | Dissemination process for Earthquake Disaster Mitigation in Japan is explained through observation visits.  |
|                        | Introduction to GIS for E<br>Mitigation                      | arthquake Disaster                        | Basics and conceptions of Geographical Information System (GIS) are explained through lecture and practice using free GIS software.   |
|                        | Japanese ODA Policy and<br>related with Disaster Mit         |   | Japanese ODA policy and implementation and the international trend of development assistance related with disaster mitigation activities, e.g., poverty and gender issues are explained.  |
| Special<br>Topics      | Related Topics with<br>Earthquake<br>Engineering             | Observation Tours                         | Observation of research institutes, administrative organs, and construction sites are conducted.  |
| Case Study             | Practice for Earthquake<br>Disaster Mitigation<br>Policy I   | Study Trip (1)                            | Study trip to Northern part of Japan (Hokkaido and/or Tohoku) for a week.   |
|                        | Practice for Earthquake<br>Disaster Mitigation<br>Policy II  | Colloquium                                | <ul><li>Three colloquium are planned</li><li>1) for the report on the seismic observation and its results in the countries of each participant,</li><li>2) for the practice of reading a scientific paper, and,</li><li>3) for explaining the plan of individual study.</li></ul>   |
|                        |  | Conferences and/or<br>Symposium           | Opportunities to attend some international conference and<br>symposium are provided in order to understand the state-of-<br>the-arts of earthquake engineering.   |
|                        | Practice for Earthquake<br>Disaster Mitigation<br>Policy III | Study Trip (2)                            | Study trip to Western part of Japan (Kansai and/or Hiroshima) for a week.   |
| Individual St          | udy  |   | About four months in the end of the training period are<br>assigned for individual study, in which each participant makes<br>a research on a specific subject and write a paper under the<br>direction of an instructor. The subject and the instructor for<br>individual study are decided through discussion with the IISEE<br>teaching staff.  |
| Others                 |  | nt for Disaster Mitigation                | Methodology and practice for Project Management Cycle and its facilitation techniques.  |
|                        | Activities that may help t                                   | he study                                  | Self Study days, Conference and Meeting, Observation Tours, etc   |

### **Technical Cooperation by The Government of Japan**

Training Award of Japan International Cooperation Agency (JICA)

#### Application by the Government of

for a training course in the field of

(FOR JAPANESE OFFICIAL USE)
□ Ordinary Group Course(集団コース) <u>Course No.</u>
□ Special Group Course(一般特設) <u>Course No.</u>

- □ Country-focused Group Course (国別特設) Course No.
- □ Counterpart(カウンターパート) <u>専門家名</u> ......
- <u>プロジェクト名</u>.....
- □ Ordinary Individual Course(個別一般)
- □ Others(C.S, 特別案件等)

# **PART A** To be completed by the nominee.

| 1 FULL NAME (as in Passport, underline Family Name)<br>(Family)         (First) |           | (Middle) |        |         |
|---|-----------|----------|--------|---------|
| 2 ADDRESS FOR CORRESPONDENCE  | 4 DATE OF | BIRTH    |        | 5 AGE   |
|   | Month     | Date     | Year   |         |
|   |           |          |        |         |
| Telephone :<br>E-mail :   | 6 SEX     | [        | MALE 🗆 | FEMALE  |
| 3 NAME AND ADDRESS OF PERSON TO BE<br>NOTIFIED IN CASE OF EMERGENCY             | 7 MARITA  | L STATUS | SINGLE | MARRIED |
|   | 8 NATIONA | ALITY    |        |         |
| Relationship to you:<br>Telephone:  | 9 RELIGIO | N        |        |         |

#### **10 EDUCATIONAL RECORD**

| Inotite  | Institution | City/Country | Years Attended |    | Qualification | Cubinet |  |
|----------|-------------|--------------|----------------|----|---------------|---------|--|
| IIIStitt | ILIOII      | City/Country | From           | То | Obtained      | Subject |  |
|          |             |              |                |    | /             |         |  |
|          |             |              |                |    |               |         |  |
|          |             |              |                |    |               |         |  |
|          |             |              |                |    |               |         |  |

#### 11 TRAINING OR STUDY IN FOREIGN COUNTRIES (in relation to professional interests.)

| Institutio |     | City/Country | Period |    | Certificate/   | Field of Study |
|------------|-----|--------------|--------|----|----------------|----------------|
| Institutio | )11 | City/Country | From   | То | Degree Awarded | Field of Study |
|            |     |              |        |    |                |                |
|            |     |              |        |    |                |                |
|            |     |              |        |    |                |                |

Please provide one original and three copies. Please print or type.



#### **12 EMPLOYMENT RECORD**

1) Present Place of Employment

| Name                     | Title of Present Job   |
|--------------------------|--|
|                          | Date of Taking Up Post   |
| Address                  | Type of Organization   |
| Telephone:<br>Telex/Fax: | <ul> <li>Private</li> <li>International</li> <li>Others</li> </ul> |

2) Previous Job

| Name and Address of Organization       | Description of Your Previous Job |
|--|----------------------------------|
|  |                                  |
|  |                                  |
| Previous Title/Post and Dates(from/to) |                                  |
|  |                                  |

3) Describe briefly the work of your organization and the service it provides.

| 4) | Describe your own job.  |
|----|---|
|    |   |
|    |   |
|    |   |
|    |   |
| 5) | Explain how the proposed training will be of benefit to you in the work you will be doing on your return. |
|    |   |
|    |   |
|    |   |
|    |   |

-----

#### **13 LANGUAGE PROFICIENCY**

| 1. English        |             |        |        |        |
|-------------------|-------------|--------|--------|--------|
| Listening         | □ excellent | 🗌 good | 🗆 fair | 🗌 poor |
| Speaking          | □ excellent | 🗌 good | 🗌 fair | 🗌 poor |
| Writing/Reading   | □ excellent | 🗌 good | 🗆 fair | 🗌 poor |
| 2. Mother Tongue  |             |        |        |        |
| 3. Other Language |             |        |        |        |
|                   | □ excellent | 🗌 good | 🗌 fair | 🗌 poor |

#### 14 NOMINEE'S DECLARATION To be signed by the nominee.

I certify that the statements made by me in this form are true and correct to the best of my knowledge.

If accepted for a training award, I agree:

(a) not to bring any member of my family.

- (b) to carry out such instructions and abide by such conditions as may be stipulated by both the nominating Government and the Japanese Government in respect of this course of training.
- (c) to follow the course of study or training, and abide by the rules of the institution or establishments with which I undertake to study or train.
- (d) to refrain from engaging in political activities, or any form of employment for profit or gain.
- (e) to submit any progress report or evaluation questionnaires which may be prescribed.
- (f) to return to my home country at the end of my course of study or training.

I also fully understand that if granted a training award it may be subsequently withdrawn if I fail to make adequate progress, or for other sufficient cause including physical conditions determined by the Government of Japan.

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

PART B To be completed by nominee's Director or Head of Department. OBSERVATIONS OF NOMINATING ORGANIZATION

1 Describe what work the nominee will be expected to do on his return.

.....

2 Explain how the proposed training will be of benefit to the work of your organization.

|    | or Non-Group Training only)<br>escribe:   |
|----|---|
| 1) | Subject area of the training required.  |
|    |   |
|    |   |
|    |   |
|    |   |
|    |   |
|    |   |
|    |   |
| 2) | Special subjects which are particularly important and should be included in the training pro- |
|    | (continue on an additional sheet if necessary).   |
|    |   |
|    |   |
|    |   |
|    |   |
|    |   |
|    |   |
|    |   |
| 3) | Period of training required (from/to).  |
|    |   |
|    |   |
| 4) | Notice required before nominee can be released from present post.                             |
|    |   |

#### 

| I certify that:                   |  |                           |
|-----------------------------------|--|---------------------------|
| I have examined the documents i   | n this form and I am satisfied that they are | e authentic and relate to |
| the nominee.                      |  |                           |
| I accordingly nominate this perso | on on behalf of the                          |                           |
| Government of                     |  |                           |
| Date:                             | Signature:                                   |                           |
|                                   |  |                           |
| Position:                         | Name:  | Official                  |
|                                   |  | stamp                     |
|                                   | Organization:                                |                           |

#### MEDICAL HISTORY AND EXAMINATION FOR JICA TRAINING AWARD

| N   | IEDICAL HISTORY TO       | BE COMPLETED B    | Y NOMINEE             |
|---|--------------------------|-------------------|-----------------------|
| 1 NAME OF NOMINEE(1                                 | ast name, first name, mi | ddle name)        |                       |
| 2 DATE OF BIRTH<br>(mo/day/yr)                      | 3 NATIONALITY            | 4 SEX male female | 5 ADDRESS FOR CONTACT |
| 6 NAME OF TRAINING                                  | COURSE/SEMINAR           |                   |                       |
| 7 LENGTH OF TRAINING COURSE/SEMINAR (weeks, months) |                          |                   |                       |
|   |                          |                   |                       |

#### **8 IMPORTANT NOTICE**

Before you complete the Medical History Questionnaire, you are hereby notified that:

A medical condition resulting from an undisclosed pre-existing condition may not be financially compen sated for by JICA and may result in termination of your training program.

I understand and accept the terms of this notice. \_\_\_\_ Yes \_\_\_\_ No

#### 9 NOMINEE WILL CHECK "YES" OR "NO" AND EXPLAIN

|    | YES | NO |   | EXPLANATION |
|----|-----|----|---|-------------|
| a. |     |    | Have you had any significant or serious<br>illness or injury? (If hospitalized, give<br>place & dates.)                   |             |
| b  |     |    | Have you had any operations or advice<br>by a physician to have an operation?<br>(Give place & dates.)                    |             |
| C. |     |    | Do you currently use any drugs for treat-<br>ment of a medial condition? (Give name<br>& dose.)                           |             |
| d  |     |    | Have you ever been a patient in a<br>mental hospital or sanitarium or treated<br>by a Psychiatrist? (Give place & dates.) |             |

#### 10 NOMINEE WILL INDICATE "YES" OR "NO" TO EACH ITEM

#### DO YOU NOW HAVE OR HAVE YOU EVER HAD THE CONDITIONS LISTED BELOW?

(Check each item, if yes, enclose the relevant condition with a circle.)

|    | YES | NO | CONDITION  |  |
|----|-----|----|--|--|
| a. |     | _  | Asthma, emphysema, or other lung conditions                                  |  |
| b. |     |    | Tuberculosis or live with anyone who has tuberculosis                        |  |
| с. |     |    | High blood pressure, heart disease   |  |
| d. |     |    | Stomach, liver (hepatitis), gall bladder disease                             |  |
| e. |     |    | Kidney or bladder disease, stone or blood in urine                           |  |
| f. |     |    | Diabetes (sugar in the urine)  |  |
| g. |     |    | Depression, excess worry, attempted suicide, or other psychological symptoms |  |
| h. |     |    | Acquired Immune Deficiency Syndrome (AIDS)                                   |  |
| i. |     |    | Tumor, abnormal growth, cyst, or cancer                                      |  |
| j. |     |    | Bleeding disorder, blood disease (sickle cell anemia)                        |  |

# I CERTIFY THAT I HAVE READ THE ABOVE INSTRUCTIONS AND ANSWERED ALL QUESTIONS TRULY AND COMPLETELY TO THE BEST OF MY KNOWLEDGE.

| 11 PRINTED NAME OF NOMINEE | 12 DATE | 13 SIGNATURE OF NOMINEE |
|----------------------------|---------|-------------------------|
|                            |         |                         |
|                            |         |                         |
|                            |         |                         |