

PANJAB UNIVERSITY, CHANDIGARH
(Esttd. under the Panjab University Act VII of 1947-enacted by the Govt. of India)

FACULTY OF ARTS

SYLLABI

FOR

**MASTERS IN DISASTER MANAGEMENT
(SEMESTER SYSTEM)
EXAMINATIONS 2016-17**

**GUIDELINES FOR CONTINUOUS INTERNAL ASSESSMENT (20%) FOR REGULAR STUDENTS OF
MASTERS IN DISASTER MANAGEMENT (SEMESTER SYSTEM)**

(Effective from the First Year Admissions for the Academic Session 2008-2009)

1. The Syndicate has approved the following guidelines, mode of testing and evaluation including Continuous Internal Assessment of Students:

- (i) Terminal Evaluation : 80%
- (ii) Continuous Assessment : 20%
- (iii) Continuous Assessment may include written assignment, snap tests, participation in discussions in the class, term papers, attendance etc.
- (iv) In order to incorporate an element of Continuous Internal Assessment of students, the colleges/ Departments will conduct one written test as quantified below:
 - (a) Written Test : 25 (reduced to 5)
 - (b) Snap Test : 25 (reduced to 5)
 - (c) Term Paper : 25 (reduced to 5)
 - (d) Participation in class discussions : 15 (reduced to 3)
 - (e) Attendance : 10 (reduced to 2)

Total: 100 reduced to 20

2. Weightage of 2 marks for attendance component out of 20 marks for Continuous Assessment shall be available only to those students who attend 75% and more of classroom lecture/ seminars/ workshops. The break-up of marks for **attendance component** for theory papers shall be as under:

Attendance Component	Marks for Theory Papers
(a) 75% and above upto 85%	: 1
(b) Above 85%	: 2

3. It shall **not be compulsory** to pass in Continuous Internal Assessment. Thus, whatever marks are secured by a student out of 20% marks, will be carried forward and added to his/her score out of 80%, i.e. the remaining marks allocated to the particular subject and, thus, he/she shall have to secure pass marks both in the University examinations as well as total of Internal Continuous Assessment and University examination.
4. Continuous Internal Assessment awards from the affiliated Colleges/Departments must be sent to the Controller of Examinations, by name, **two weeks before** the commencement of the particular examination on the *proforma* obtainable from the Examination Branch.

SPECIAL NOTE:

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) In the case of Postgraduate Courses in the Faculties of Arts, Science, Languages, Education, Design & Fine Arts, and Business Management & Commerce (falling under the purview of Academic Council), where such a provision of Internal Assessment/ continuous Assessment already exists, the same will continue as before.
- (iii) The marks obtained by the candidate in Continuous Internal Assessment in Postgraduate Classes from the admissions of 2008 will be shown separately in Detailed-Marks-Card (D.M.C.).

PANJAB UNIVERSITY, CHANDIGARH

**Outlines of tests, syllabi and courses of reading for Masters in Disaster Management
(Semester System) for the examinations of 2016-17.**

Course Structure

Semester	Course Code	Title of the Paper	Max. Marks	Credits
I	DM1	Concepts, Approaches and Theories of Disasters Theory: 80 Internal Assessment: 20	100	4
	DM2	Fundamentals of Disaster Management Theory: 80 Internal Assessment: 20	100	4
	DM3	Natural and Human Induced Disasters Theory: 80 Internal Assessment: 20	100	4
	DM4	Role of Remote Sensing & Geographic Information Systems in Disaster Management Theory: 50 Practical: 30 Internal Assessment: 20	100	4
II	DM5	Finance and Insurance in Disaster Management Theory: 80 Internal Assessment: 20	100	4
	DM6	Research Methods in Disaster Management Theory: 50 Practical: 30 Internal Assessment: 20	100	4
	DM7	Disasters in India Theory: 50 Practical: 30 Internal Assessment: 20	100	4
	DM8	Disaster Management Mechanisms in India Theory: 80 Internal Assessment: 20	100	4
III	DM9	Legal Aspects of Disaster Management Theory: 80 Internal Assessment: 20	100	4
	DM10	Preparedness and Mitigation Theory: 50 Practical: 30 Internal Assessment: 20	100	4

MASTERS IN DISASTER MANAGEMENT (SEMESTER SYSTEM)

	DM11	Relief, Rehabilitation & Reconstruction Theory: 50 Practical: 30 Internal Assessment: 20	100	4
	DM12	Internship Report: 80 Viva Voce: 20	100	4
IV	DM13	Role of International Agencies in Disaster Management Theory: 80 Internal Assessment: 20	100	4
	DM14	Dissertation Formulation of Project proposal: 50 Mid-Term Evaluation: 50 Report evaluation and Viva: (150+50) 200	300	12

NOTE: During the Third Semester, the students are required to undergo the four weeks internship and prepare a report. The internship will be carried out with a government agency or NGO. The candidate will spend this time in gathering the requisite experience and skills necessary for his/her training. In addition, the candidate may collect material/data for his/her report also.

SEMESTER I

DM 1: CONCEPTS, APPROACHES AND THEORIES OF DISASTERS

Max. Marks	: 100
Theory Paper	: 80
Internal Assessment	: 20
Time	: 3 Hours

Objectives:

Main objectives of Disaster Management course are to acquaint the students with the philosophy, approaches and theories as an academic as well as professional field.

UNIT- I

- i. Definition and Concept of Hazard, Risk, Vulnerability and Disaster
- ii. Meaning, Nature, Characteristics and Types of Disasters

UNIT-II

- iii. Foundations of Disaster Studies: Review of Concepts
- iv. Historical Developments: Western vs Oriental discourse on Disaster Studies
- v. Globalization and Disaster Studies

UNIT-III

- vi. Social Science and Domains Approach
- vii. Natural Science Approach
- viii. Applied Science Approach
- ix. Critique of Approaches

UNIT-IV

- x. Theories: Behavioural; Complexity; Mutuality; Structural
- xi. Models: Pressure and Release (PAR); Access Model; Risk Factor Model

Note:

1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The student shall attempt any 10 questions in about 25-30 words each. Each question shall carry 2 marks (total 20 marks).
2. A total of 8 questions will be set out of the whole syllabus, at least 2 from each unit. The candidates will attempt 4 questions selecting 1 from each unit, carrying 15 marks each (total 60 marks). These will be in addition to the compulsory question at serial number 1.
3. Internal assessment shall include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.

List of Readings

Essential Readings:

1. Beatley, Timothy (1998). *The Vision of Sustainable Communities, In Burby, Raymond (ed.), Cooperating with Nature: Confronting Natural Hazards with Land-Use Planning for Sustainable Communities*, Washington, D.C., Joseph Henry Press.

2. Burton, I., Kates, R.W. and White, G.F. (1993). *Environment as Hazard*, 2nd edition, Guilford Press, New York.
3. FEMA (1998). *Protecting Business Operations: Second Report on Costs and Benefits of Natural Hazard Mitigation*, Washington, D.C.
4. Kasperson, J.X., Kasperson, R.E. and Turner, B. L. (1995). *Regions at Risk: Comparisons of Threatened Environments*, United Nation, University Press, Tokyo.
5. Mark Pelling (ed.) (2003). *Natural disasters and development in a globalizing world*, Routledge, London.

Further Readings:

1. Greg, Bankoff and others (2004). *Mapping Vulnerability: Disasters, Development and People* Earthscan Publishers, London.
2. Chakraborty, S.C. (2007). *Natural Hazards and disaster management*, Pragatishil Prakashak, Kolkata.
3. Reddy, K.R. and others (2009). *Natural Hazards and Disasters*, Department of Geography, S.K. University, Anantpur, A.P., India.

Pedagogy: All matters pertaining to concepts, approaches and theories of Disaster management are to be examined and explained by way of asking the students to prepare write ups on specific issues and problems. Emphasis will be placed more on local problems and their practical dimensions.

DM 2: FUNDAMENTALS OF DISASTER MANAGEMENT

Max. Marks	: 100
Theory Paper	: 80
Internal Assessment	: 20
Time	: 3 Hours

Objectives:

Main objectives of this course are to familiarize the students with the foundations and the recent trends in disaster management.

UNIT I

- i. Disaster Management: Meaning, Concepts, Principles, Scope, Objectives and Approaches
- ii. Elements of Disaster Management

UNIT II

- iii. Disaster Mitigation: Hazard Assessment, Vulnerability Assessment, Risk Assessment, Protective Measures and Public Information
- iv. Disaster Preparedness: Disaster Plan, Damage Inspection, repair and Recovery procedures, Communication and Control Centers, Disaster Forecasting, Warning and Prediction

UNIT III

- v. Disaster Relief: Rapid Damage Assessment, Search and Rescue operations, Evacuation and Shelter, Food and Medical Supply, Mass Media Coverage, Relief Aid, Maintaining Public Order

UNIT IV

- vi. Reconstruction Planning: Meaning and Significance
- vii. Economic and Social Rehabilitation

Note:

1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The student shall attempt any 10 questions in about 25-30 words each. Each question shall carry 2 marks (total 20 marks).
2. A total of 8 questions will be set out of the whole syllabus, at least 2 from each unit. The candidates will attempt 4 questions selecting 1 from each unit, carrying 15 marks each (total 60 marks). These will be in addition to the compulsory question at serial number 1.
3. Internal assessment shall include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.

List of Readings

Essential Readings:

1. Beatley, Timothy (1998). *The Vision of Sustainable Communities, In Burby, Raymond (ed.), Cooperating with Nature: Confronting Natural Hazards with Land-Use Planning for Sustainable Communities*, Washington, D.C., Joseph Henry Press.
2. David Godschalk, Timothy Beatley, Philip Berke, David Brower, Edward J. Kaiser (1998). *Natural Hazard Mitigation: Recasting Disaster Policy And Planning*, Island Press.
3. FEMA (2000). *Planning for a Sustainable Future: The Link between Hazard Mitigation and Livability. Washington, D.C.*
4. Godschalk, David R., Timothy Beatley, Philip Berke, David J. Brower, and Edward J. Kaiser (1999). *Natural Hazard Mitigation; Recasting Disaster Policy and Planning, Washington, D.C. Island Press.*

Further Readings:

1. Godschalk, D.R. et.al. (1999). *Natural Hazard Mitigation Recasting Disaster Policy and Planning*, Island Press, Washington, D.C.
2. Schneid, T. and Collins, L. (1998). *Disaster Management and Preparedness*, Lewis Publishers, Washington, D.C.

Pedagogy: All issues related to concepts of Disaster management are to be examined and explained by way of asking the students to prepare write ups on specific issues and problems.

DM 3: NATURAL AND HUMAN INDUCED DISASTERS

Max. Marks	: 100
Theory Paper	: 80
Internal Assessment	: 20
Time	: 3 Hours

Objectives

Main objectives of this course are to introduce the students with the nature of disasters with a view to acquainting them with their fundamentals.

UNIT- I

- i. Classification of Disasters; Conceptualizing the interface between environmental degradation and disasters
- ii. Natural Disasters I: Earthquakes & Tsunamis; Volcanic Eruptions; Landslides and Avalanches

UNIT- II

- iii. Natural Disasters II: Cyclones; Forest-fires; Droughts and Desertification; Floods

UNIT- III

- iv. Human Induced Disasters I: Nuclear Disasters; Chemical Disasters; Soil and Water Pollution

UNIT- IV

- v. Human Induced Disasters II: Global warming; Biological Disasters: Epidemics

Note:

1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The student shall attempt any 10 questions in about 25-30 words each. Each question shall carry 2 marks (total 20 marks).
2. A total of 8 questions will be set out of the whole syllabus, at least 2 from each unit. The candidates will attempt 4 questions selecting 1 from each unit, carrying 15 marks each (total 60 marks). These will be in addition to the compulsory question at serial number 1.
3. Internal assessment shall include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.

List of Readings

Essential Readings:

1. Ahmed, Shaik Iftikhar (2008). *Disaster Management in the Wake of a Flood*, Twenty First Century Publications, Patiala.
2. Bryant Edwards (2005). *Natural Hazards*, Cambridge University Press, U.K.
3. Carter, W. Nick (1991). *Disaster Management*, Asian Development Bank, Manila.
4. Central Water Commission (1987). *Flood Atlas of India*, CWC, New Delhi.
5. Central Water Commission (1989). *Manual of Flood Forecasting*, New Delhi.

6. Government of India (1997). Vulnerability Atlas of India, New Delhi.
7. Kapur, A. (2010). Vulnerable India: A Geographical Study of Disasters, Sage Publications, New Delhi.
8. Kapur, A. (2005). Disasters in India: Studies of Grim Reality, Rawat Publications, Jaipur.
9. Sahni, Pardeep et al. (eds.) (2002). Disaster Mitigation Experiences and Reflections, Prentice Hall of India, New Delhi.

Further Readings:

1. Bilham, R. (2009). The seismic future of cities. Bulletin of Earthquake Engineering, 7, pp. 839-887.
2. Bureau of Indian Standards (2002). Indian Standards: Criteria for Earthquake Resistant Design of Structures, Part I, Fifth Revision.
3. Government of India (1997). Vulnerability Atlas of India (New Delhi: Building Materials and Technology Promotion Council, Ministry of Housing & Urban Poverty Alleviation).

Pedagogy: The students shall be explained the interactive relationship between disasters and environmental degradation. Extensive use of audio visual aids will be made. Field trips will be arranged, if feasible.

DM 4: ROLE OF REMOTE SENSING & GEOGRAPHIC INFORMATION SYSTEMS IN DISASTER MANAGEMENT

Max. Marks	: 100
Theory Paper	: 50
Practical	: 30
Internal Assessment	: 20
Time	: 3 Hours

Distribution of Marks:

- | | | |
|------|--|----------|
| (i) | Written paper of three hours duration along with theory papers | 50 marks |
| (ii) | Practical record and viva voce (20+10) | 30 marks |

Objectives:

Main objectives of this course are to introduce the students with the applications of Earth Observation Technology and geoinformatics in disaster management. This paper aims at developing students' decision making capabilities with scientific orientation.

Unit I

Fundamentals of Remote Sensing:

- i. Introduction to Remote Sensing: Meaning, Definition, Types and Applications
- ii. Energy-atmosphere; Energy- earth surface interaction and Spectral signatures
- iii. Sensor Platforms; Scanning Systems; RS data Characteristics; Resolution

UNIT – II

Fundamentals of Geographic Information Systems (GIS):

- iv. Definition, Concept, Significance of GIS and Applications of GIS
- v. Component of GIS; Spatial data base: Types and Representations

Fundamentals of Global Positioning System (GPS):

- VI. Concept and Principles of Operation, GPS Segment
- VII. GPS Positioning, GPS Accuracy and Errors, Applications of GPS

Unit-III

RS & GIS in Disaster Mitigation and Preparedness:

- viii. Geoinformatics Perspective in Disaster Management
- ix. Hazard Analysis and Mapping; Risk and Vulnerability Assessment
- x. Monitoring and Forecasting; Warning and Evacuation

Unit IV

RS & GIS Applications:

- xi. Landslide Hazard Assessment and Monitoring
- xii. Seismic Hazard Assessment and Monitoring
- xiii. Flood Hazard Assessment and Monitoring
- xiv. Drought Hazard Assessment and Monitoring

PRACTICAL SESSIONS

- 1. Understanding Maps
- 2. Understanding Satellite Imageries
- 3. Knowing GIS Software (ARC GIS): Some Basic Operations
- 4. Hazard Zonation Using RS & GIS
- 5. Understanding Global Positioning System (GPS)

Note:

- 1. A compulsory question containing 10 short answer type questions shall be set covering the whole syllabus. The student shall attempt any 7 questions in about 25-30 words each. Each question shall carry 2 marks (total 14 marks).
- 2. A total of 8 questions will be set out of the whole syllabus, at least 2 from each unit. The candidates will attempt 4 questions selecting 1 from each unit, carrying 9 marks each (total 36 marks). These will be in addition to the compulsory question at serial number 1.
- 3. Internal assessment may include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.
- 4. The candidates will be required to carry out practical exercises in the laboratory and submit the practical file record for evaluation. Assessment of practical record and viva-voce will be done by three examiners consisting of internal, Chairperson of the department and one additional faculty member teaching the course. Distribution of marks: Practical record: 20 marks and Viva-voce Examination: 10 marks. The practical file shall be submitted to the department ten days before the commencement of the theory examination of the semester.

List of Readings

Essential Readings:

1. Heywood, I. Connelius, S. and Carver, S., (2010). An Introduction to Geographical Information Systems, Pearson Education Limited, United Kingdom.
2. Lillesand, T.M.; & Kiefer, R.W. (1994). Remote Sensing and Image Interpretation, Third Edition, John Wiley and Sons.
3. Roy, P.S.; Van Westen, C.J.; Jha, V.K.; Lakhera, R.C. and Champati Ray, P.K. (2000). Natural Disaster and their Mitigation: Remote Sensing and Geographical Information System Perspectives, IIRS, Dehra Dun, Govt. of India.
4. Smith, K. and D. N. Petley (2009). Environmental Hazards: Assessing Risk and Reducing Disaster, 5th Edition, New York: Routledge.
5. Chandel, Vishwa. B. S. and Brar, K. K. (2011). Multi-Disaster Risk and Vulnerability in Western Himalayan State of Himachal Pradesh. *Punjab Geographer*, 7, 9-19.
6. Chandel, Vishwa. B. S. and Brar, K. K. (2010). Climatic Extremes and Changing Climate in Western Himalayas: A Study of Cloudburst Incidences in Himachal Pradesh. *Punjab Geographer*, 6, 29-40.
7. Chandel, Vishwa. B. S.; Brar, K. K. and Chauhan, Y. (2011). RS & GIS Based Landslide Hazard Zonation of Mountainous Terrains: A Study from Middle Himalayan Kullu District, Himachal Pradesh, India. *International Journal of Geomatics and Geosciences*, 2(1), 121-132. 2011. Available online at:
<http://ipublishing.co.in/jggsvol1no12010/voltwo/EIJGGS3011.pdf>
8. Chandel, Vishwa. B. S. and Brar, K. K. (2010). Seismicity and Vulnerability in Himalayas: the case of Himachal Pradesh, India. *Geomatics, Natural Hazards and Risk*, 1(1), 69–84. Available online at:
<http://www.springerlink.com/content/2860664656505556/fulltext.pdf>

Further Readings:

1. Bankoff, G.; Frerks, G. and Hilhorst, D. (2004). Mapping Vulnerability: Disasters, Development and People, Earthscan Publications Ltd.
2. Blaikie, P.; T. Cannon; I. Davis; and B. Wisner (1994). At Risk: Natural Hazards, People's Vulnerability, and Disasters, 1st edition, London: Routledge.
3. Harvey, F., (2008). A Primer of GIS: Fundamentals of Geographic and Cartographic Concepts, The Guilford Press, New York London.
4. Mather, P.M. (2008). Computer Processing of Remotely-Sensed Images: An Introduction, Third Edition, John Wiley & Sons.
5. Nag, P. and M. Kudrat (1998). Digital Remote Sensing, Concept Publishing Company, New Delhi.

Pedagogy: The students shall be explained the fundamentals of Remote Sensing, GIS and GPS through audio-visual aid, class discussion, presentations and field-work. These fundamentals will form the basis of disaster analysis, monitoring and assessment.

SEMESTER-II

DM 5: FINANCE AND INSURANCE IN DISASTER MANAGEMENT

Max. Marks	: 100
Theory Paper	: 80
Internal Assessment	: 20
Time	: 3 Hours

Objectives:

Main objectives of this course are to acquaint the students with the methods and products available in Public and Private sectors to get insured and secure against Disaster events. Techniques of financial management will also be discussed in depth.

UNIT- I

- i. Definition, nature, role and importance of Insurance
- ii. Kinds of Insurance and Process of Insurance
- iii. Insurance assurance and re-insurance.
- iv. Insurance and Disaster management

UNIT- II

- v. Role of Macro Insurance in Disaster Management
- vi. Risk Management Objectives (i.e., economic effects) explicit
- vii. Quantify the Risks; Assessment of Damage for Insurance
- viii. Risk Management Products

UNIT-III

- ix. Dynamic Financial Analysis (DFA)
- x. Community Perception of Disasters and Insurance Decisions.
- xi. Role and Importance of finance in disaster management.

UNIT-IV

- xii. Disaster Finance and Risk Reduction-Private Sector Participation
- xiii. Role of World Bank in Disaster finance and Risk Reduction
- xiv. Financing Disaster Risk in India

Note:

1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The student shall attempt any 10 questions in about 25-30 words each. Each question shall carry 2 marks (total 20 marks).
2. A total of 8 questions will be set out of the whole syllabus, at least 2 from each unit. The candidates will attempt 4 questions selecting 1 from each unit, carrying 15 marks each (total 60 marks). These will be in addition to the compulsory question at serial number 1.
3. Internal assessment shall include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.

List of Readings

Essential Readings:

1. Chandra, Prasanna (2005). Financial Management, Tata Mc-Graw Hill, 6th Edition.
2. Hood, C. and Jones, D.K.C. (eds.), (1996). *Accident and Design: Contemporary Debates in Risk Management*, UCL Press, London.
3. Pandey, I.M. (2005). Financial Management, Vikas Publishing House, 12th edition.
4. Paraswamam, S. and Umikrishnan, P.V. (2000). *India Disaster Report*, Oxford University Press, New Delhi.
5. Vanhorne (2004). Financial Management, Pearson Education, 12th edition.

Further Readings:

1. Sahni, Pardeep and others (2003). Disaster Risk Reduction in South Asia, Prentice Hall of India, New Delhi.
2. World Development Report, Development and the Environment (1999). Oxford University Press, Delhi.
3. Cuny, Frederick, Disaster and Development (1983). Oxford University Press, England.
4. Uvin, Peter (1996). Development, Aid and Conflict, United Nations University, Tokyo, 1996.

Pedagogy: Fundamentals and practice of insurance and financial arrangements are introduced to students, various risk management products in the market along with fiscal and financial arrangements between the cultural and state Government on one side and between the state government and the local government are explained the students: students are asked to prepare write ups on specific issues and problems.

DM 6: RESEARCH METHODS IN DISASTER MANAGEMENT

Max. Marks	: 100
Theory Paper	: 50
Practical	: 30
Internal Assessment	: 20
Time	: 3 Hours

Distribution of Marks:

- | | | |
|------|--|----------|
| (i) | Written paper of three hours duration along with theory papers | 50 marks |
| (ii) | Practical record and viva voce (20+10) | 30 marks |

Objectives:

Main objectives of this course are to introduce the students with research fundamentals and strengthen their research skills.

UNIT-I

- i. Scientific Investigation: Definition, scope and objective, types, approaches and significance.

- ii. The research process: the broad problem area; preliminary data collection; problem selection and definition; theoretical framework; hypothesis development and elements of research design
- iii. Experimental design: the laboratory experiment; variables; validity; and types of experimental designs

UNIT-II

- iv. Data collection: measurement, processing and analysis; measurement in research, operational definition, measurement scales, scaling; scaling techniques, reliability and validity; sources of data; data collection methods: interviewing, questionnaires, other methods of data collection.

UNIT-III

- v. Sampling: Need and purpose of sampling, population and sample, population frame, sampling with and without replacement, population parameters
- vi. Sampling theory—sampling distributions, parameter estimation, hypothesis testing. Sampling designs – probability and non-probability sampling

UNIT-IV

- vii. Report writing: the research proposal, the report, integral parts of the report, steps involved in report writing, types of reports, oral presentation, conclusions

PRACTICAL SESSIONS

1. Data collection using a schedule and a questionnaire on a given problem.
2. Sampling exercise from the given spatial data
3. Exercise on data classification, tabulation and mapping
4. Data generation from Topographical Maps, Aerial Photograph and Satellite Imageries
5. Exercise on report writing.

Note:

1. A compulsory question containing 10 short answer type questions shall be set covering the whole syllabus. The student shall attempt any 7 questions in about 25-30 words each. Each question shall carry 2 marks (total 14 marks).
2. A total of 8 questions will be set out of the whole syllabus, at least 2 from each unit. The candidates will attempt 4 questions selecting 1 from each unit, carrying 9 marks each (total 36 marks). These will be in addition to the compulsory question at serial number 1.
3. Internal assessment may include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.
4. The candidates will be required to carry out practical exercises in the laboratory and submit the practical file record for evaluation. Assessment of practical record and viva-voce will be done by three examiners consisting of internal, Chairperson of the department and one additional faculty member teaching the course. Distribution of marks: Practical record: 20 marks and Viva-voce Examination: 10 marks. The practical file shall be submitted to the department ten days before the commencement of the theory examination of the semester.

List of Readings

Essential Readings:

1. Hillier, F.S. & Hillier, M.S. (2005). Introduction to Management Science, Tata McGraw Hill.
2. Vohra N.D. (2003). Quantitative Techniques in Management Tata McGraw Hill.
3. Kottegoga, N.T. and Rosso, R. (1998). Statistics, Probability and Reliability for Civil and Environmental Engineers. McGraw-Hill, New York.
4. Johnson, R.A. (1999). Miller and Freund's Probability and Statistics for Engineers. Prentice-Hall of India Pvt. Ltd, New Delhi.
5. Manly, B.F.J. (1994). Multivariate Statistical Methods. A Primer. Chapman and Hall, London.
6. Manly, B.F.J. (2001). Statistics for Environmental Science and Management, Chapman and Hall, London.
7. Floyd F. Sabins Jr. (1987). Remote Sensing, Principles and interpretation. W.H. Freemanes & Co., New York, 2nd Edition.
8. Lillesand T.M. & Kiefer W. (1994). Remote Sensing and Image Interpretation, John Wiley and Sons, New York.
9. Stan Marany (1999). GIS Solutions in Natural Resource Management, Onward Press, USA.
10. Singleton. R.A. Jr, and Straits B. C. (1999). Approaches to Social Research. Oxford University Press, New York.

Further Readings:

1. Moore, D.S. (1999). The Basic Practice of Statistics. W.H. Freedman, NY.
2. De Vaus, D.A. (1995). Surveys in Social Research. Allen & Unwin, Sydney, NSW, 1995.
3. Foddy, W. (1994). Constructing Questions for Interviews and Questionnaires. Cambridge University Press, Cambridge.
4. Scarbrough E., E. Tanenbaum (1998). Research Strategies in the Social Sciences. Oxford University Press. Oxford.
5. Kothari, C.R. (2008): Research Methodology Methods & Techniques, New Age International (P) Ltd. New Delhi.

Pedagogy: The students shall be given an area and problem to apply various aspects of research. The application will expose them about the importance of research and the practical exercises will ignite them to do research in future

DM 7: DISASTERS IN INDIA

Max. Marks	: 100
Theory Paper	: 50
Practical	: 30
Internal Assessment	: 20
Time	: 3 Hours

Distribution of marks

- | | |
|---|----------|
| i. Written paper of three hours duration along with theory papers | 50 marks |
| ii. Practical record and viva voce (20+10) | 30 marks |

Objectives

Main objectives of this course are to sensitize the students with disaster profile of India portraying regional dimensions.

Unit I

- i. Disaster Profiles of India
- ii. Regionalization of Disasters in India: Earthquake and Landslide
- iii. Regionalization of Disasters in India: Flood, Drought and Cyclone

Unit II

- iv. Earthquakes in Western Himalayas, North-east India and Gujarat
- v. Landslides in Himalayas and Western Ghats
- vi. Avalanches in Western Himalayas

Unit III

- vii. Floods in Ganga Basin and Floods in Punjab
- viii. Cyclones in Bay of Bengal and Arabian Sea
- ix. Disasters in Himachal Pradesh and Disasters in Uttrakhand

Unit IV

- x. Urban Disasters: Case Studies of Delhi and Mumbai Metropolitan Regions
- xi. Rail Accidents in India, Terrorism in India
- xii. Chemical and Industrial Disasters in India

PRACTICAL SESSIONS

Disaster Profile of India:

- 1. Earthquake Prone Areas and Seismic Zones in India
- 2. Flood Prone Area in India
- 3. Wind & Cyclone Zones in India
- 4. Landslide Hazard Zones in India
- 5. Drought Prone Areas in India
- 6. Multi Hazard Areas in India

Note:

1. A compulsory question containing 10 short answer type questions shall be set covering the whole syllabus. The student shall attempt any 7 questions in about 25-30 words each. Each question shall carry 2 marks (total 14 marks).
2. A total of 8 questions will be set out of the whole syllabus, at least 2 from each unit. The candidates will attempt 4 questions selecting 1 from each unit, carrying 9 marks each (total 36 marks). These will be in addition to the compulsory question at serial number 1.
3. Internal assessment may include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.
4. The candidates will be required to carry out practical exercises in the laboratory and submit the practical file record for evaluation. Assessment of practical record and viva-voce will be done by three examiners consisting of internal, Chairperson of the department and one additional faculty member teaching the course. Distribution of marks: Practical record: 20 marks and Viva-voce Examination: 10 marks. The practical file shall be submitted to the department ten days before the commencement of the theory examination of the semester.

List of Readings

Essential Readings:

1. Ahmed, Shaik Iftikhar (2008). *Disaster Management in the Wake of a Flood*, Twenty First Century Publications, Patiala
2. Bureau of Indian Standards (2002). Indian Standards: Criteria for Earthquake Resistant Design of Structures, Part I, Fifth Revision.
3. Government of India (1997). *Vulnerability Atlas of India* (New Delhi: Building Materials and Technology Promotion Council, Ministry of Housing & Urban Poverty Alleviation).
4. Kapur, A (2010). *Vulnerable India: A Geographical Study of Disasters*, Sage Publications, New Delhi.
5. Kapur, A (2005). *Disasters in India: Studies of Grim Reality*, Rawat Publications, Jaipur.
6. Paraswamam, S. and Umikrishnan, P.V. (2000), *India Disaster Report*, Oxford University Press, New Delhi.

Further Readings:

1. Bryant Edwards (2005): *Natural Hazards*, Cambridge University Press, U.K.
2. Hewitt, K. (1997). *Regions of Risk: A Geographical Introduction to Disasters*, Longman, London.
3. Kasperson, J.X., Kasperson, R.E. and Turner, B. L. (1995). *Regions at Risk: Comparisons of Threatened Environments*, United Nation, University Press, Tokyo.

Pedagogy: The students shall be explained the spatio-temporal and regional dimensions of disasters in India. The focus will be on reconstructing disaster profile based on case studies. Extensive use of audio visual aids will be made. Field trips will be arranged, if feasible.

DM 8: DISASTER MANAGEMENT MECHANISMS IN INDIA

Max. Marks	: 100
Theory Paper	: 80
Internal Assessment	: 20
Time	: 3 Hours

Objectives:

Main objectives of this course are to familiarize the students with the foundations, recent trends and Governmental and Non Governmental practices for disaster management in India.

Unit I

- i. Institutional Framework of Disaster Management in India
- ii. Role of Planning Commission in Disaster Management

Unit II

- iii. National/Central Level Management: Nodal Agencies
- iv. National Disaster Management Authority

Unit III

- v. State Authorities, local groups and committees: State, District and Local Level Management
- vi. Community Participation in Disaster Management and Risk Reduction

Unit IV

- vii. Stakeholders in Disaster Management
- viii. Role of the following in Disaster Management:
NGO, Corporate Sector
Army and Police
Educational Institutions

Note:

- 1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The student shall attempt any 10 questions in about 25-30 words each. Each question shall carry 2 marks (total 20 marks).
- 2. A total of 8 questions will be set out of the whole syllabus, at least 2 from each unit. The candidates will attempt 4 questions selecting 1 from each unit, carrying 15 marks each (total 60 marks). These will be in addition to the compulsory question at serial number 1.
- 3. Internal assessment shall include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.

List of Readings

Essential Readings:

- 1. Ahmad, A. (2010): Disaster Management: Through the New Millennium, Anmol Publications, New Delhi.
- 2. Anandha Kumar, K.J., Walia, A. & Chaturvedi, S., (2012): India Disaster Report 2011, <http://nidm.gov.in/PDF/India%20Disaster%20Report%202011.pdf>

3. Collins, L.R., (2002): Disaster Management and Preparedness, Library of Congress, United States of America.
4. Disaster Management Act (2005).
<http://www.ndmindia.nic.in/actsrules/DisasterManagementAct2005.pdf>
5. Dr. Satendra, (2003): Disaster Management in the Hills, Concept Publishing House, New Delhi.
6. Goel, S.L., (2006): Encyclopedia of Disaster Management, Deep and Deep Publications, New Delhi.
7. Gosh, G.K., (2012): Disaster Management, A.P.H. Publishing Corporation, New Delhi
8. Government of India, (2004): Disaster Management in India -A Status Report,
<http://ndmindia.nic.in/EQProjects/Disaster%20Management%20in%20India%20-%20A%20Status%20Report%20-%20August%202004.pdf>
9. Government of India, (2005): Disaster Management in India,
<http://www.unisdr.org/2005/mdgs-drr/national-reports/India-report.pdf>
10. Gupta, H.K., (2003): Disaster Management, Universities Press (India) Private Limited, Hyderabad.

Further Readings:

1. Hewitt, K. (1997). Regions of Risk: A Geographical Introduction to Disasters, Longman, London.
2. International Federation of Red Cross and Red Crescent Societies, (2012): World Disasters Report, 2012 – Focus on Forced Migration and Displacement,
<http://www.ifrcmedia.org/assets/pages/wdr2012/resources/1216800-WDR-2012-ENFULL.pdf>
3. Kapur, A. (2005). Disasters in India: Studies of Grim Reality, Rawat Publications, Jaipur; 2005.
4. Kasperson, J.X., Kasperson, R.E. and Turner, B. L. (1995). Regions at Risk: Comparisons of Threatened Environments, United Nation, University Press, Tokyo.
5. Ministry of Home Affairs, Government of India, (2011): Disaster Management in India,
<http://nidm.gov.in/PDF/DM%20in%20India.pdf>
6. NDMA (2009): National policy on Disaster Management,
http://nidm.gov.in/PDF/policies/ndm_policy2009.pdf
7. Paraswamam, S. and Umikrishnan, P.V. (2000). India Disaster Report, Oxford University Press, New Delhi.
8. Shastri, K.N. (2012): Disaster Management in India, Pinnacle Technology.
9. Singh, R.B., (2000): Disaster Management, Rawat Publications, Jaipur.
10. Also included are all the books, guidelines and manuals available on the website of NIDM,
<http://nidm.gov.in/>

Pedagogy: The students shall be explained the foundations, recent trends and Governmental practices for disaster management in India.

Semester III

DM- 9: LEGAL ASPECTS OF DISASTER MANAGEMENT

Max. Marks	: 100
Theory Paper	: 80
Internal Assessment	: 20
Time	: 3 Hours

Objective:

Main objective is to make the students aware of the legal system related to disaster management

Unit I

- i. International Perspective of Disaster management and Related Legal Development
- ii. Role of Human Rights in Disaster Management
- iii. Long term Implications of Disasters with Regard to Law: Long term Consequences for the Victims. Revising the Models of Disaster Management
- iv. An Overview of Provisions of The Constitution of India (With more Emphasis on Fundamental, Rights, Directive Principles of State Policies and Fundamental Duties)
- v. Public Interest Litigation and Judicial Activism

Unit II

- vi. Role of the Union and the State Governments in Disaster Management; Functions of designated ministries (with Focus on Ministry of Home Affairs As The Nodal Agency)
- vii. Planning and Disaster Vulnerability: Role of Planning Commission in Disaster Management.
- viii. The Disaster Management Act, 2005
- ix. Importance of Decentralization in Disaster Management: Power and Function of Local Administration, Role of Municipalities And Panchayati Raj Institution With Reference to Following:
 - A Brief Case Study of National Capital Territory- North Delhi's Draft State Disaster Management Plan with Special Reference to Emergency Response plan
 - Gujrat Earthquake, Plague in Surat, Bhopal Gas Tragedy
 - Fire Safety norms: Uphar Cinema and Tamil Nadu School Fire Tragedies (With Emphasis On The Supreme Court Guide Lines And National Building Code 2005)
 - Seizure of Public Property during Disasters

Unit III

- x. Environment Jurisprudence: Case Laws
- xi. National Environment Policy, 2006
- xii. Effectiveness and Evaluation of Central and State Pollution Control Boards in India (With Relevant Provisions of The Water (Prevention And Control Of Pollution) Act, 1974 And the Air (Prevention And Control Of Pollution) Act, 1981); The Environment (Protection) Act, 1986 and General Principles to regulate Hazardous Substances.

Unit IV

xiii. Important/ Useful Statutes with Provisions Relevant to Disaster Management

- The Atomic Energy Act, 1962
- The Explosive Act, 1872
- The Explosive Substance Act, 1908
- The Mines and Minerals (Regulation And Development) Act, 1957
- Chapter IV of Factories Act, 1948
- The Weapons Of Mass Destruction And Their Delivery Systems (Prohibition Of Unlawful Activities) Act, 2005
- The Essentials Services Maintenance Act, 1981

Note:

1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The student shall attempt any 10 questions in about 25-30 words each. Each question shall carry 2 marks (total 20 marks).
2. A total of 8 questions will be set out of the whole syllabus, at least 2 from each unit. The candidates will attempt 4 questions selecting 1 from each unit, carrying 15 marks each (total 60 marks). These will be in addition to the compulsory question at serial number 1.
3. Internal assessment shall include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.

List of Readings

Essential Readings:

1. Kanoorayar, Vishnu and V.S. Jaya (ED). (2006) *Disaster Management Law*, Universal Law House.
2. Pandey J.N. (2008). *The Constitutional Law of India*, Central Law Agency, Allahabad
3. Jaswal P.S. (2009). *Environmental Law*, Allahabad Law Agency
4. Baxi Upendra (1986). *Inconvenient Forum and Convenient Catastrophe: The Bhopal Case*, India Institute of Law.
5. The Disaster Management Act 2005
6. The Atomic Energy Act, 1962
7. The Explosive Substance Act, 1908
8. The Mines and Minerals (Regulation And Development) Act, 1957
9. The Insecticide Act, 1968
10. The Factories Act, 1948
11. The Essentials Services Maintenance Act, 1981
12. The Weapons of Mass Destruction and Their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005.

Further Readings:

1. Bakshi, P.M., *The Constitution of India* (BARE ACT) Universal Law Publishing House.
2. Agarwal, H.O. (2008). *International Law and Human Right*, Central Law Publication.
3. Alexandra George (2001). *Property in the human body and its parts: reflections self-determination in liberal society*, European University Institute, Florence.
4. Ambala-Bertrand, J.M. (1993). *Political Economy of Large Natural Disasters, With Special Reference to Developing Countries*, Clarendon Press, Oxford.
5. Andrew Waite (1984). *Environmental law: Hand book*, London, Butterworths.
6. Andrew Waite and Tim Jewell (Ed.) (1997). *Environmental Law in Property Transactions*, Butterworths, London.
7. David Shaman (1996). *India's Pollution Regulatory Structure and Background*, In *New Ideas in Pollution Regulation*, World Bank Group.
8. Diane, Warburton (Ed.) (1998). *Community and Sustainable Development: Participation in the future*, Earthscan Publications Ltd., London.
9. Godschalk, D. R. et.al. (1999), *Natural Hazard Mitigation Recasting Disaster Policy and Planning*, Island Press, Washington, D.C.
10. Norman Dorsen, (Ed.) (2001), *Democracy and the Rule of Law*, CQ Press, Washington, D.C.
11. Walter Laqueur (2003). *No End to War: Terrorism in the Twenty-First Century*, Continuum, New York.

Pedagogy: The students shall be explained the legal system related to disaster management in India. The focus will be on introducing the students with important Statutes with Provisions Relevant to Disaster Management.

DM-10: PREPAREDNESS AND MITIGATION

Max. Marks	: 100
Theory Paper	: 50
Practical	: 30
Internal Assessment	: 20
Time	: 3 Hours

Distribution of marks

- i. Written paper of three hours duration along with theory papers 50 marks
- ii. Practical record and viva voce (20+10) 30 marks

Objectives: Main objective is to prepare the students for risk assessment and its reduction, preparedness planning, and vulnerability assessment.

UNIT I

- i Risk Assessment: Concept, elements, process and evaluation.
- ii Vulnerabilities and capacities of individuals and societies to different types of hazards.

UNIT II

- iii Disaster Preparedness: Concept, nature, measures, disaster preparedness plan.
- iv Role and responsibility of Central, State, District and Local Administration, Armed Forces, Police, Para-Military Forces, International Agencies, National Service Scheme, NGO's Media
- v Risk Reduction, Response and Recovery

UNIT III

- vi Infrastructure in emergencies:
 - Water, medical and sanitation
 - Transportation and Communication networks

UNIT IV

- vii Disaster Mitigation: Concept, importance, guiding principles, tools
- viii Disaster Mitigation Strategies with reference to specific disasters (cyclones, droughts, floods, earthquakes)
- ix Emerging trends in Disaster Mitigation

PRACTICAL SESSIONS:

- Case based exercises of management in disaster situations
- Lectures on research in the field of Management of disaster situations
- Lectures on systems and organisations in society for managing disaster situations
- Small group work, group discussion, role play, case study exercises, self directed and guided study, seminar and paper presentations. The format will cater for diverse educational and practice needs, allowing students to pursue their individual study requirements.

Note:

1. A compulsory question containing 10 short answer type questions shall be set covering the whole syllabus. The student shall attempt any 7 questions in about 25-30 words each. Each question shall carry 2 marks (total 14 marks).
2. A total of 8 questions will be set out of the whole syllabus, at least 2 from each unit. The candidates will attempt 4 questions selecting 1 from each unit, carrying 9 marks each (total 36 marks). These will be in addition to the compulsory question at serial number 1.
3. Internal assessment may include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.
4. As part of practical exercises students will be required to write a brief report (about 10 pages) on preparedness and mitigation of a particular disaster occurring in an area given to them and submit the practical file record for evaluation. Assessment of practical record and viva-voce will be done by three examiners consisting of internal, Chairperson of the department and one additional faculty member teaching the course. Distribution of marks: Practical record: 20 marks and Viva-voce Examination: 10 marks. The practical file shall be submitted to the department ten days before the commencement of the theory examination of the semester.

List of Readings

Essential Readings:

1. Kaplan, Stanley and Garrick, B. John (1981). On the Quantitative Definition of Risk, *Risk Analysis*, Vol. 1, pp.11-27.
2. Coppola, Damon P. (2007). *Introduction to International Disaster Management*, Butterworth-Heinemann (Elsevier), Oxford.
3. Choularton, Richard. Contingency planning and humanitarian action (2007). - A review of practice, No.59", *Humanitarian Practice Network (HPN)*, Overseas Development Institute, London.
4. Hart, P, Heyse, L and Boin, A. (2001). New trends in crisis management practice and crisis management research: setting the agenda, *Journal of Contingencies and Crisis Management*.
5. Quarantelli, E L. (1998). *Major Criteria for Judging Disaster Planning and Managing and their Applicability in Developing Societies*, Disaster Research Center, University of Delaware, Newark, Delaware, USA.
6. Asian Development Bank (1991). *Disaster Mitigation in Asia and the Pacific*, Manila.

Further Readings:

1. Barker, W. George and Dwight W. Chapman (Eds.) (1962). *Man and Society in Disaster*, Basic Books, New York.
2. Gosling L, Edwards M, Toolkits (1995). *A Practical Guide to Assessment, Monitoring, Review and Evaluation*, Save the Children fund London.
3. Indian Buildings Congress, Journal of Indian Building Congress, Proceedings of Seminar on *Earthquakes in Built Environment*, New Delhi, 2001.
4. Sahni, Pardeep and Madhavi, Malalgoda Ariyabandu (2001). *Disaster Risk Reduction in South Asia*, Prentice-Hall of India, New Delhi.
5. Godschalk, David R et.al. (1999). *Natural Hazard Mitigation Recasting Disaster Policy and Planning*, Island Press, Washington DC.

Pedagogy: The students shall be introduced with the pre-disaster management concepts to prepare them for risk assessment and its reduction, preparedness planning, and vulnerability assessment using case studies and practical exercises.

DM-11: RELIEF, REHABILITATION & RECONSTRUCTION

Max. Marks:	100
Theory Paper:	50
Practical:	30
Internal Assessment	20
Time:	3 Hours

Objectives: Main objective is to prepare the students to analyse and execute the operational aspects of assessing, planning and implementing health hazard prevention and care interventions in emergencies.

UNIT I

Contextualizing Relief Rehabilitation and Reconstruction:

- Phases in Disaster Management
- Disaster Management Cycle
- Significance of Relief, Rehabilitation and Reconstruction

Nature and Components of:

- Relief
- Rehabilitation
- Reconstruction

UNIT II

Relief Elements:

- Rescue and Evacuation; Provision of basic need
- Restoration of Emergency services; Maintenance of Order

Steps in Relief Provision:

- Rapid damage assessment; Implementation of disaster response plan
- Search and Rescue Operations; Evacuation and Shelter Provision
- Provision of food clothing and medical supplies
- Restoring Emergency Services; Re-establishing and strengthening lines of communication

UNIT III

Rehabilitation:

- Impact Assessment: Human cost of disaster, Extent of damage to Environment, Physical Infrastructure and Livelihood Sources.
- Inventorising and Mobilising Resources for Rehabilitation: Locally available resources and national and international aid; Prioritization and Allocation of Resources
- Agencies involved in Rehabilitation: Local administration, NGO, CBOs and International aid agencies.

Reconstruction:

- Critical assessment of existing Disaster management Plan.
- Assessment of any Perspective plans for the region in the light of disasters and reforming the same.
- Identification of critical areas, population groups and sectors.

UNIT IV

Case Studies with spatial reference to Relief Rehabilitation & Reconstruction

- Bhuj Earthquake 2001

- Kashmir Earthquake 2005
- Uttarkashi Flood 2013
- Leh Cloudburst 2010
- Tsunami of 2004
- Nuclear Disaster in Japan 2012

Practical Sessions:

- Case based exercises of management in disaster situations
- Lectures on research in the field of Management of disaster situations
- Lectures on systems and organisations in society for managing disaster situations
- Small group work, group discussion, role play, case study exercises, self directed and guided study, seminar and paper presentations. The format will cater for diverse educational and practice needs, allowing students to pursue their individual study requirements.

Note:

1. A compulsory question containing 10 short answer type questions shall be set covering the whole syllabus. The student shall attempt any 7 parts in about 25-30 words each. Each part shall carry two marks (total 14 marks).
2. A total of eight questions will be set out of the whole syllabus, at least two from each unit. The candidates will attempt **four** questions selecting one from each unit, carrying nine marks each (Total 36 marks) These will be in addition to the compulsory question at serial number I.
3. Internal assessment may include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.
4. The candidates will be required to carry out 5 practical exercises in the laboratory and submit the practical file record for evaluation. Assessment of practical record and viva-voce will be done by three examiners consisting of internal, Chairperson of the department and one additional faculty member teaching the course. Distribution of marks: Practical record: 20 marks and Viva-voce Examination: 10 marks. The practical file shall be submitted to the department ten days before the commencement of the theory examination of the semester.

References

1. Barakat, S., *Housing Reconstruction after Conflict and Disaster*, Overseas Development Institute (ODI), Humanitarian Practice Network (HPN), London, 2003.
2. Barenstein, J.D. and Pittet, D., *Post-disaster housing reconstruction: Current trends and sustainable alternatives for tsunami-affected communities in coastal Tamil Nadu*, University of Applied Sciences, Environment Construction and Design, Department, Institute for Applied, Sustainability to the Built Environment, Switzerland, 2007.
3. Christoplos, I., 'The elusive window of opportunity' for risk reduction in post-disaster recovery', Discussion Paper for Session 3 Pro-Vention Consortium Forum 2006, *Strengthening Global Collaboration in Disaster Risk Reduction*, p. 4, Bangkok, February 2006.
4. Coppola, D., *Introduction to Disaster Management*, Chapter 7, 'Recovery', pp 295-335, Elsevier, Amsterdam, 2007.

5. Drabek T.E. and McEntire D., “Emergent phenomena and multiorganizational coordination in disasters: lessons from the research literature, *International Journal of Mass Emergencies and Disasters*, Vol. 20, No. 2, pp. 197-224, 2002.
6. Frühling, P., *Turning disaster into opportunities: Swedish contributions to reconstruction and transformation in Central America after Disaster Mitch*, Swedish International Development Cooperation Agency (Sida), Department for Latin America, Stockholm, 2002.
7. *World Disaster Report*, International Federation of the Red Cross Red Crescent Societies (IFRC), Geneva, 2001.
8. GTZ, *Perú: Proyecto de reconstrucción con inclusión de la gestión de riesgo* (Reconstruction project with integration of disaster risk management), Wamsler, C. (main author), GTZ, Eschborn, Germany, (2003).

Pedagogy: Lectures, Class discussions, role play and expert lectures along with fieldwork.

DM-12: INTERNSHIP

Max. Marks:	100
Report:	80
Viva Voce:	20

Note: The students are required to undergo four weeks internship and prepare a report. The internship will be carried out with a government agency or NGO. The candidate will spend this time in gathering the requisite experience and skills necessary for her/his training. In addition, the candidate may collect material/data for his/her report also. The BOC of the Department will plan the task and coordinate with the government agency or NGO.

SEMESTER-IV

DM-13: ROLE OF INTERNATIONAL AGENCIES IN DISASTER MANAGEMENT

Max. Marks : 100

Theory Paper : 80

Internal Assessment : 20

Time : 3 Hours

Objective: To familiarize the students with the role played by the international agencies in management of disasters.

UNIT I : International Agencies in Disaster Management : An Overview

- Role of United Nations in Disaster Risk Reduction: An Overview
- Office for the Coordination of Humanitarian Affairs (United Nations) (OCHA)
- United Nations Population Fund (UNFPA)
- United Nations Secretary-General's Advisory Board on Water & Sanitation (UNSGAB)
- United Nations Environment Programme (UNEP)

UNIT II: Detailed Studies of the role played by the following agencies in Disaster Management.

- International Committee of the Red Cross
- World Health Organization (WHO)
- World Food Programme
- Food and Agriculture organisation of the United Nations (FAO)
- Role of NGOs in Disaster Management: Oxfam

UNIT III: Planning and implementation of development assistance programmes for Refugees :

- United Nations High-Commissioner for Refugees (UNHCR)
- **Development Assistance for Refugees Programmes**
 - Main Concepts and Issues;
 - Planning, Implementation, Monitoring and Evaluation of DAR Programmes;
 - Assessment, Planning and Participatory Development

UNIT IV: Environmental health in emergencies during natural and human induced disaster: Prevention, Preparedness, Detection, Response, Recovery.

- Nature of Emergencies and Disasters
- Predisaster Activities
- Emergency Response
- Food Safety

Note:

1. A compulsory question containing 15 short-answer type questions shall be set covering the whole syllabus. The student shall attempt ten questions in 25-30 words each. Each part shall carry 2 marks (Total: 2x10= 20 marks).
2. A total of eight questions will be set out of the whole syllabus, at least 2 from each unit. The candidates will attempt 4 questions selecting one from each unit. Each question will carry 15 marks (Total 60 marks). These will be in addition to the compulsory question at the serial number 1.
3. Internal assessment will include written assignment, snap tests, participation in discussion in the class, term papers etc. as per university rules.

Essential Readings

- Ghosh, GK (2006): *Disaster Management, Vol. I-VI*, APH Publishing Corporation, New Delhi.
- *Handbook for Planning and Implementing Development Assistance for Refugees Programmes* (2005), UNHCR, Geneva.
- Trivedi, PR (2007): *Encyclopedia of Disaster Management, Vol. 1-12*, Jnanada Prakashan, New Delhi.
- *The World Health Report*, World Health Organisation, Geneva, various reports published 1995 onward.
- Wisner, B and J. Adams (2002): *Environmental Health in Emergencies and Disaster - A Practical Guide*, WHO.

Further Readings

- The World health Report, World Health Organization, Geneva, various reports published 1995 onwards

Pedagogy: The students will be introduced with the role of International agencies/organizations in the management of disasters through case studies.

DM-14: DISSERTATION

Maximum Marks	: 300
Formulation of Project proposal	: 50
Mid-Term Evaluation	: 50
Report evaluation and Viva (150+50)	: 200

Notes:

1. The Board of Control shall assign a candidate to a faculty member/s for supervision of his/her project report on an approved topic. The student shall prepare three copies of his/her project report and submit in the concerned department. The report shall have to be submitted ten days before the commencement of the theory examination of the said semester. The project report shall incorporate the findings arrived at on the basis of the data/information collected from the field and processed, analyzed and mapped in the GIS lab. A faculty member of the department shall only be eligible to supervise this report.

2. Mid-term appraisal of the project report shall have two-components: (i) presentation on project proposal including the research objectives, methodology and the chapter scheme, after three weeks of assigning the project title, (ii) presentation of data analysis and tentative findings, six weeks after the assigning of the project title. The mid-term appraisal of the project report shall be done by a board of four examiners consisting of the supervisor, chairperson and the two senior faculty members of the department.
3. For the evaluation of project report, three examiners, consisting of supervisor, Chairperson of the department, and one more faculty member teaching the course, shall evaluate the report independently and student shall be awarded the mean score of the three evaluations. The evaluation work shall have the two-components:
 - i. Evaluation of project report,
 - ii. Presentation of data analysis and main findings before the board of examiners and viva voce.
