

Ch. Charan Singh University Campus, Meerut
Department of Geography
Course – PG Diploma in Disaster Management System

The course outlines, syllabus, course reading and scheme of examinations of PG Diploma in Disaster Management System. The Course shall be of one year duration spread over in two semesters. Eligibility for admission to the course shall be graduation in any field. The admission shall be merit based and as per the guidelines set by the university for the purpose. Duration of examination for theory and practical papers shall be three and four hours respectively. Practical examination will be conducted by a board of one internal and one external examination out of the panel recommended by the Board of Studies in Geography. Project work shall be evaluated as per the existing rules of the university.

The Post Graduate Diploma in Disaster Management System Program shall consist of total 40 credits and each paper shall consist of 05 (Five) credits shall be equivalent to 100 marks which shall be classified into the ratio of 50 % external and 50 % internal. The division of marks is as under:

Internal Test : 15 Marks each

Two Quiz : 05 Marks each

Attendance & Co-Curricular Activities (To be announced by the Department) : 10

Max Marks : 100 Marks

Passing Marks : 40 Marks

The internal Assessment awarded to student in any particular course will be based on performance of the students in two internal tests, quiz test and attendance & Co – Curricular activities (Assessment, Viva – Voce, Presentation, Live assignment, Group Discussion, Case study, etc.). The students who fail in internal assessment as well as in aggregate will have the option to improve their score in the internal assessment giving a special chance to such students. However no student will be allowed to improve his/her score of internal assessment, if he/she has already scored 40% marks in aggregate as well in external examination. A student who could not secure 40 % marks in external will have to reappear in the external examination of the respective paper as per university rules. Instructions to the examiners and students for the external examination of 50 marks:

The details of the course Disaster Management System shall be as under:

First Semester

Sl. No	Course Code	Course Name	Credits		
			Lecture	Practical	
1	DMS - 1001	Introduction to Natural Disaster	5	0	5
2	DMS - 1002	Introduction to Man Made Disaster	5	0	5
3	DMS - 1003	Disaster Preparedness	5	0	5
4	DMS - 1004	Application for Disaster Management System (Practical)	2	6	5

First Semester

Sl. No	Course Code	Course Name	Hours per Week			Credits
			Lecture	Theory	Practical	
1	DMS - 2001	Rehabilitation Reconstruction & Recovery	5	1	0	5
2	DMS - 2002	Introduction to Man Made Disaster	5	1	0	5
3	DMS - 2003	Geographical Information System and ICT in Disaster Management	5	1	0	5
4	DMS - 2004	Project Report	2	0	6	5

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Semester - I
Paper Code: DMS - 1001
Introduction to Natural Disaster

Max. Marks: 100
Theory Exam: 50
Int. Assessment: 50

- Unit – I : Meaning, Nature and Importance of Disaster Management.
Disaster Management cycle.
- Unit – II : Natural Disaster they types and effects: Drought, Floods, Cyclone,
Earth Quake, Land Slides, Volcanic, Heat and Cold Waves,
- Unit – III : Climate Change and Global Warming, Climate Change and Sea level
Rise, Climate Change and Ozone depletion.

Note: The question paper will have nine questions in all, three from each unit. Candidate(s) will be required to attempt five questions in all, selecting at least one question from each unit. All questions carry equal marks.

Suggested Readings:

1. Bryant Edwards (2005): Natural Hazards, Cambridge University Press, U.K.
2. Carter, W. Nick, 1991: Disaster Management, Asian Development Bank, Manila.
3. Central Water Commission, 1987, Flood Atlas of India, CWC, New Delhi.
4. Central Water Commission, 1989, Manual of Flood Forecasting, New Delhi.
5. Government of India, 1997, Vulnerability Atlas of India, New Delhi.
6. Sahni, Pardeep et.al. (eds.) 2002, Disaster Mitigation Experiences and Reflections, Prentice Hall of India, New Delhi.

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Semester - I
Paper Code: DMS - 1002
Introduction to Man Made Disaster

Max. Marks: 100
Theory Exam: 50
Int. Assessment: 50

- Unit – I : Meaning and Nature of Man Made Disaster, Factors affecting damage: type, social status, Habitation, Physiology and Climates.
- Unit – II : Nuclear Disaster, Chemical, Biological, Building Fire, Coal Fire, Forest Fire, Oil Fire,
- Unit – III : Air Pollution, Water Pollution, Deforestation, Industrial Pollution, accident: Road accident, Rail Accident , Air Accident, Sea Accident.

Note: The question paper will have nine questions in all, three from each unit. Candidate(s) will be required to attempt five questions in all, selecting at least one question from each unit. All questions carry equal marks.

Suggested Readings:

1. Bryant Edwards (2005): Natural Hazards, Cambridge University Press, U.K.
2. Carter, W. Nick, 1991: Disaster Management, Asian Development Bank, Manila.
3. Central Water Commission, 1987, Flood Atlas of India, CWC, New Delhi.
4. Central Water Commission, 1989, Manual of Flood Forecasting, New Delhi.
5. Government of India, 1997, Vulnerability Atlas of India, New Delhi.
6. Sahni, Pardeep et.al. (eds.) 2002, Disaster Mitigation Experiences and Reflections, Prentice Hall of India, New Delhi.

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Semester - I
Paper Code: DMS - 1003
Disaster Preparedness

Max. Marks: 100
Theory Exam: 50
Int. Assessment: 50

- Unit – I : Concept, Nature and significant of Disaster Preparedness, Prevention, Preparedness and Mitigation, Disaster Preparedness plan, Disaster Preparedness for people and Infrastructure, Community based Disaster Preparedness Plan.
- Unit – II : Roll of Information, Education, Communication & Training, Role and Responsibilities of Central, State, District and local administration, Role and Responsibilities of Armed Forces, Police, Para Military Forces, Role and Responsibilities of International Agencies, NGO's, Community Based Org. (CBOEs).
- Unit – III : Disaster Mitigation: Meaning and Concept, Disaster Mitigation Strategies, Emerging Trends in Disaster Mitigation, Mitigation management, Role of Team and Coordination.

Note: The question paper will have nine questions in all, three from each unit. Candidate(s) will be required to attempt five questions in all, selecting at least one question from each unit. All questions carry equal marks.

Suggested Readings:

1. Bryant Edwards (2005): Natural Hazards, Cambridge University Press, U.K.
2. Roy, P.S. (2000): Space Technology for Disaster Management: A Remote Sensing & GIS Perspective, Indian Institute of Remote Sensing (NRSA), Dehradun.
3. Sharma, R.K. & Sharma, G. (2005) (ed) Natural Disaster, APH Publishing Corporation, New Delhi.

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Semester - I
Paper Code: DMS - 1004
Application for Disaster Management System (Practical)

Max. Marks: 100

Geo - informatics in Disaster Management (Remote Sensing, Geographical Information System Global Positioning System and Global Navigation System), Disaster Communication System (Early Warning and Its Dissemination).

Suggested Readings:

1. Arnoff, Stan (1989), Geographical Information System: A Management Perspective, WDL Publication, Ottawa.
2. Bernhardsen, T. (1992), Geographical Information Systems, VIAKIT IT, Norwy.
3. Faust, N.L., W.H. Anderson and J.L. Star (1991), Geographic information systems and Remote Sensing future computing environment, Photogrammetric Engineering and Remote Sensing, Vol. 57, Issue 6, pp. 655-68.
4. Nag. P. and M. Kudrat (1998), Digital Remote Sensing, Concept Publishing Company New Delhi.
5. Roy, P.S. (2000): Space Technology for Disaster Management: A Remote Sensing & GIS Perspective, Indian Institute of Remote Sensing (NRSA) Dehradun.

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Semester - II
Paper Code: DMS - 2001
Rehabilitation, Reconstruction & Recovery

Max. Marks: 100
Theory Exam: 50
Int. Assessment: 50

- Unit – I : Reconstruction and Rehabilitation as means of development, Damage Assessment, Role of various agencies in Disaster Management and Development, Information, Management, Structure, Development of Physical and Economic infrastructure.
- Unit – II : Creation of Long term Job opportunities and livelihood operation, Funding arrangement of Reconstruction, Nature of Damage to Houses and infrastructure due to disaster, Disaster residence house construction, Role of Housing/Building authorities.
- Unit – III : Education and awareness, The Philosophy of coping with disaster, Role of various agencies in recovery major, monitoring and evaluation of rehabilitation work, constraints in monitoring and evaluation, Long term recovery, Long term counter disaster planning.

Note: *The question paper will have nine questions in all, three from each unit. Candidate(s) will be required to attempt five questions in all, selecting at least one question from each unit. All questions carry equal marks.*

Suggested Readings:

1. Bryant Edwards (2005): Natural Hazards, Cambridge University Press, U.K.
2. Kasperson, J.X., R.E. Kasperson, and B.L. Turner III (Eds.), 1995, Regions at Risk: Comparisons of threatened Environments, United Nations University Press, Tokyo.
3. Singh Satendra (2003): Disaster Management in the hills, Concept Publishing Company, New Delhi.
4. WWW.nidmindia.nic.in
5. <http://www.cambridge.org>

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Semester - II
Paper Code: DMS - 2002
Disaster Response and Disaster Management

Max. Marks: 100
Theory Exam: 50
Int. Assessment: 50

- Unit – I : Disaster response plan, Communication Participation and Activation of Emergency Preparedness plan, Logistic Management, Needs and Damage Assessment.
- Unit – II : Essential Components of Disaster Response, Disaster Response Plan, Resource Management – Financial, Medical, equipment, communication, human, transportation, Food and essential commodity (Identification, Procuring, Propositioning and deployment), Directing and controlling functions.
- Unit – III : Minimum Standard of Relief, Relief Management essential components, Funding Relief – Short term and long Term, Disaster Site Management, Recovery.

Note: The question paper will have nine questions in all, three from each unit. Candidate(s) will be required to attempt five questions in all, selecting at least one question from each unit. All questions carry equal marks.

Suggested Readings:

1. White, G.F, 1974, Natural Hazards: Local, National, Global, Oxford University Press, New York.
2. Taori, K (2005) Disaster Management through Panchayati Raj, Concept Publishing Company, New Delhi.
3. www.nidmindia.nic.in

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Semester - II
Paper Code: DMS - 2003
Geographical Information System and ICT in Disaster Management

Max. Marks: 100

Theory Exam: 50

Int. Assessment: 50

- Unit - I : Definition of GIS, Concept of space and Time, Spatial data, Domains of Spatial information system, Components of GIS (Hardware, Software, Data), GIS Functionalities for end user/system (Data Acquisition, Data Input, Data Management, Data Analysis, Data Modeling and Data Output).
- Unit - II : Introduction of Remote Sensing, fundamentals of Remote Sensing, Electromagnetic Radiation, Electromagnetic Spectrum, Energy interaction with Atmosphere, Energy interaction with Earth Surface, Platform and Sensors, Microwave Remote Sensing, Remote Sensing Application in Disaster Management, Scenario of Indian Remote Sensing Satellite in future.
- Unit - III : Importance of Early Warning System, Community Early Warning System, Core Components of people centered Early Warning System, Emergency Communication System, Wireless Communication, Bluetooth Wireless Technologies, Mobile phone, FM Radio, GPS Application in Emergency Communication, Remote Sensing and GIS Application in Warning System, Cyclone Warning System and Tsunami Warning System.

Note: The question paper will have nine questions in all, three from each unit. Candidate(s) will be required to attempt five questions in all, selecting at least one question from each unit. All questions carry equal marks.

Suggested Readings:

1. Arnoff, Stan (1989), Geographical Information System: A Management Perspective, WDL Publication, Ottawa.
2. Bernhardsen, T. (1992), Geographical Information Systems, VIAKIT IT, Norwy.
3. Burrough, Petar and R. Mc Donnell (1998), Principles of Geographical Information Systems, Oxford University Press, Oxford.
4. Faust, N.L., W.H. Anderson and J.L. Star (1991), Geographic information systems and Remote Sensing future computing environment, Photogrammetric Engineering and Remote Sensing, Vol. 57, Issue 6, pp. 655-68.
5. Nag. P. and M. Kudrat (1998), Digital Remote Sensing, Concept Publishing Company New Delhi.

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Semester - II
Paper Code: DMS - 2004

Max. Marks: 100

Project Report

Every candidate will be required to write a project report on a topic approved by the competent authority. Candidate will be required to submit project report by the end of second semester.