

Curriculum for Disaster Management at Undergraduate Level Courses

Unit	Details	Lectures / Hours
1	Understanding Disasters	2
	Understanding the Concepts and definitions of Disaster, Hazard, Vulnerability, Risk, Capacity – Disaster and Development, and disaster management	
2	Types, Trends, Causes, Consequences and Control of Disasters	8
	Geological Disasters (earthquakes, landslides, tsunami, mining); Hydro-Meteorological Disasters (floods, cyclones, lightning, thunder-storms, hail storms, avalanches, droughts, cold and heat waves) Biological Disasters (epidemics, pest attacks, forest fire); Technological Disasters (chemical, industrial, radiological, nuclear) and Man-made Disasters (building collapse, rural and urban fire, road and rail accidents, nuclear, radiological, chemicals and biological disasters) Global Disaster Trends – Emerging Risks of Disasters – Climate Change and Urban Disasters	
3.	Disaster Management Cycle and Framework	8
	Disaster Management Cycle – Paradigm Shift in Disaster Management Pre-Disaster – Risk Assessment and Analysis, Risk Mapping, zonation and Microzonation, Prevention and Mitigation of Disasters, Early Warning System; Preparedness, Capacity Development; Awareness During Disaster – Evacuation – Disaster Communication – Search and Rescue – Emergency Operation Centre – Incident Command System – Relief and Rehabilitation – Post-disaster – Damage and Needs Assessment, Restoration of Critical Infrastructure – Early Recovery – Reconstruction and Redevelopment; IDNDR, Yokohama Strategy, Hyogo Framework of Action	
4	Disaster Management in India	7
	Disaster Profile of India – Mega Disasters of India and Lessons Learnt Disaster Management Act 2005 – Institutional and Financial Mechanism National Policy on Disaster Management, National Guidelines and Plans on Disaster Management; Role of Government (local, state and national), Non-Government and Inter-Governmental Agencies	
5	Applications of Science and Technology for Disaster Management	7
	Geo-informatics in Disaster Management (RS, GIS, GPS and RS) Disaster Communication System (Early Warning and Its Dissemination) Land Use Planning and Development Regulations Disaster Safe Designs and Constructions Structural and Non Structural Mitigation of Disasters S&T Institutions for Disaster Management in India	
6	Suggested Areas for Project and Assignments	
	Study of Recent Disasters (at local, state and national level) And Preparation of Disaster Risk Management Plan of an Area or Sector Role of Engineers in Disaster Management	

Possible Reading Materials	
1	Coppola D P, 2007. Introduction to International Disaster Management, Elsevier Science (B/H), London.
2.	Manual on natural disaster management in India, M C Gupta, NIDM, New Delhi
3.	An overview on natural & man-made disasters and their reduction, R K Bhandani, CSIR, New Delhi
4.	World Disasters Report, 2009. International Federation of Red Cross and Red Crescent, Switzerland
5.	Encyclopedia of disaster management, Vol I, II and III Disaster management policy and administration, S L Goyal, Deep & Deep, New Delhi, 2006
6.	Encyclopedia of Disasters – Environmental Catastrophes and Human Tragedies, Vol. 1 & 2, Angus M. Gunn, Greenwood Press, 2008
7	Disasters in India Studies of grim reality, Anu Kapur & others, 2005, 283 pages, Rawat Publishers, Jaipur
8.	Management of Natural Disasters in developing countries, H.N. Srivastava & G.D. Gupta, Daya Publishers, Delhi, 2006, 201 pages
9.	Natural Disasters, David Alexander, Kluwer Academic London, 1999, 632 pages
10	Disaster Management Act 2005, Publisher by Govt. of India
11	Publications of National Disaster Management Authority (NDMA) on Various Templates and Guidelines for Disaster Management
12	NIDM Publications
13	High Power Committee Report, 2001, J.C. Pant
14	Disaster Mitigation in Asia & Pacific, Asian Development Bank
15	National Disaster Management Policy, 2009, GoI
16	Disaster Preparedness Kit, American Red Cross