

SEMESTER – II			
All UG Programme-Part-IV			
DISASTER MANAGEMENT			
UNIT	Learning Objectives		
CO1	To introduce the basic concepts of disaster, hazard, vulnerability, and risk.		
CO2	To understand the types and causes of various natural and anthropogenic disasters.		
CO3	To provide knowledge of disaster management strategies, phases, and mitigation techniques.		
CO4	To understand the types, causes, effects and mitigation of Man- made and industrial hazards.		
CO5	To familiarize students with institutional frameworks like NDMA, NDRF and SDMA with awareness and preparedness in handling the disasters effectively.		
Unit	Details	No. of Hours	Course Objectives
I	Fundamentals of Disaster Management Concept of disaster and hazard: definition and distinctions. Types of disasters: Natural - geological, hydrological, climatological; Biological and Man-made. Disaster Management Cycle: preparedness, response, recovery and mitigation. Risk and Vulnerability analysis: Types of vulnerability, Risk and Resilience.	12	CO1
II	Geological Disasters Earthquakes: causes, effects, and mitigation strategies. Tsunami: generation, impact zones, and early warning systems. Volcanoes: types, causes, effects, and risk zones. Landslides: mechanisms, triggers, and mitigation.	12	CO2
III	Hydrological, Climatological and Biological Disasters Hydrological Disasters: Avalanches - definition, causes and facts. Floods - causes, types, impacts, and flood control measures. Climatological Disasters: global warming, climate change, droughts, cyclones - types, effects and warning systems. Biological Disasters: epidemics and pandemics - causes, spread and control measures (e.g., COVID-19, Dengue, Cholera etc.,).	12	CO3
IV	Man-Made and Industrial Disasters Man-Made Disasters: Famine, Transport - road, rail and air accidents, Conflicts, Terrorism and their impact on society. Industrial Disasters - chemical, nuclear, mine explosion, pollution, acid rain and oil spills. Urban Disasters - stampede, building collapse and effluence. Fire accidents - causes, effects, and safety regulations.	12	CO4
V	Disaster Management Framework and Institutions in India Disaster prone regions of India. National Disaster Management Act and Policy. Role of NDMA, NDRF and SDMA. Disaster preparedness plan - awareness, mitigation and management.	12	CO5
UNIT	Learning Outcomes		
I	Know about the Nature of Disasters and Hazards.		
II	Know about the Earthquakes, Volcanic Eruption and Landslides etc.,		
III	Understand the Causes and effects of Cyclones, Floods, and Droughts.		
IV	Acquired the knowledge of Fire Accidents, Explosions, Road Accidents and Stampede.		
V	Know about the Role Agencies in Disaster Management.		
Text books/References:			

1	Kapur, A. (2010). <i>Vulnerable India: A Geographical Study of Disasters</i> . SAGE India Pvt. Ltd., New Delhi.
2	Vulnerability Atlas of India (1997). Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India, New Delhi.
3	Singh, R.B. (2006). <i>Natural Hazards and Disaster Management: Vulnerability and Mitigation</i> (Edited Volume). Rawat Publications, New Delhi.
4	Modh, S. (2010). <i>Managing Natural Disaster: Hydrological, Marine and Geological Disasters</i> . Macmillan, New Delhi.
5	Srivastava, H.N. & Gupta, G.D. (2006). <i>Management of natural disasters in developing countries</i> . Delhi: Daya Publishers.
6	Coppola, D. P, (2007). <i>Introduction to international disaster management</i> . London: Elsevier Science (B/H).
7	David Alexander. (1999). <i>Natural disasters</i> . London: Kluwer Academic
8	Murthy, D.B.N. (2012) <i>Disaster management</i> . New Delhi: Deep and Deep Publication
9	Gupta H.K. (2003). <i>Disaster Management</i> . University Press.
10	Sharma, R.K. and Sharma, G. (2014). <i>Natural Disaster</i> . APH Publishing.
11	Alexander, D. (2002). <i>Principles of Emergency Planning and Management</i> . Oxford University Press.
12	Singh, R.B. (2006). <i>Natural Hazards and Disaster Management</i> . Rawat Publications.
WEB SOURCE	
1	NDMA Guidelines (available at: www.ndma.gov.in)
2	NIDM (available at: www.nidm.gov.in)
3	NDRF (available at: www.ndrf.gov.in)
4	SDMA (available at: www.cra.tn.gov.in)

Summary of Course Outcomes (COs):

CO	Course Outcome Statement	Bloom's Level	Mapped POs
CO1	Understand disaster types and the disaster management cycle	Understand (L1, L2)	PO1, PO6, PO7
CO2	Analyze geological disasters and their management strategies	Analyze (L4)	PO1, PO2, PO6, PO7
CO3	Evaluate hydro-meteorological disaster impacts and responses	Evaluate (L5)	PO1, PO2, PO6, PO7
CO4	Identify and assess causes and responses to man-made disasters	Analyze (L4)	PO1, PO5, PO6, PO8
CO5	Apply institutional framework knowledge for disaster risk reduction in India	Apply (L3)	PO3, PO4, PO7, PO8