

**DISASTER MANAGEMENT**  
**(Open Elective –I)**

**Course Code: 20CE11P1**

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**Pre-requisites: Nil**

**Course Outcomes:**

At the end of the course, the student shall be able to:

**CO1:** Explain about concepts of disaster management and types of disasters

**CO2:** Explain the Vulnerability profile of India & legal framework in India

**CO3:** Discuss about early warning systems for disaster risk reductions

**CO4:** Describe the policy and programmes for disaster risk reductions in India

**CO5:** Demonstrate rescue and relief operation in India during disaster

**UNIT–I**

**(10 Lectures)**

**INTRODUCTION TO DISASTER MANAGEMENT:**

Definitions and concepts of Hazard, Vulnerability, Risk, Resilience, Concept of Disaster Management Cycle – Response, Recovery, Mitigation and Preparedness, Introduction to Various Hazards both Natural and Man-Made Hazards – Earthquakes, Cyclones, Droughts, Floods, Volcanoes, Coastal Hazards, Landslides, Forest Fires, Industrial Accidents, Biological Disasters, etc., Climate Change, Global Warming.

***Learning outcomes:***

1. Summarize the vocabulary of disasters(L2)
2. Explain about natural and manmade disasters and their related damages to the society and infrastructure(L2)
3. Discuss about disaster phenomenon, it's different contextual aspects, impacts and public health consequences (L2)

**UNIT–II**

**(10 Lectures)**

**DISASTER MANAGEMENT IN INDIA:**

Hazard and vulnerability profile of India, Disaster Management Act 2005, National Disaster Mitigation and Management Guideline on -National Policy on Disaster Management 2009, NDMA guidelines on Cyclones specifically, besides earthquakes, floods, urban floods, information systems, communication systems etc., Introduction to State Disaster Management Authorities.

**Disaster Management in the World Scenario:** Role of UNDRR, Role of UNISDR

***Learning outcomes:***

1. Summarizing the vulnerability profile of India, concept of disaster management cycle(L2)
2. Explain about the Disaster Management Act and policies in India related to financial aspects and legal proceedings(L2)
3. Describe administrative authority for organizing the disaster management situation in India and overall in the world (L2)

### **UNIT-III**

**(10 Lectures)**

#### **HAZARD ANALYSIS:**

Estimation of potential causes, characteristics and impact of Hazards. Geological Processes leading to natural hazards, Multi- Hazard Assessment, Short term and Long Term Prediction, Early warning system for different hazards, Risk Analysis for Individuals, communities etc. Role of Remote Sensing & GIS in Disaster Management and its applications, Case Studies.

##### ***Learning outcomes:***

1. Discuss monitoring and evaluation plan for disaster response(L2)
2. Describe setting up of early warning systems for risk reductions(L2)
3. Compute risk analysis for individuals and communities(L3)

### **UNIT-IV**

**(10 Lectures)**

#### **DISASTER RISK REDUCTION (DRR):**

Assessing Vulnerabilities, Risk Assessment, Preparation of Exposure and Risk Database, Prevention and mitigation strategies for DRR, Framework of Disaster Risk Reduction. Capacity Building Measures, Community Participation, Contemporary studies and work towards disaster risk reduction, Disaster Risk Reduction Plan.

##### ***Learning outcome:***

1. Describe the international strategy for disaster reduction(L2)
2. Explain the abilities for implementing the disaster risk reduction strategy(L2)
3. Discuss the framework of disaster risk reduction(L2)

### **UNIT-V**

**(10 Lectures)**

#### **RESPONSE AND RECOVERY OPERATIONS:**

Role of NDRF, Training of personnel, equipment necessary, public awareness creation, Mass Casualty Management, agencies involved in mass casualty management, Qualification and Duties of professionals, Response policy, Case Studies.

##### ***Learning outcomes:***

1. Explain the importance of rescue and relief operation(L2)
2. Discuss public awareness in communities(L2)
3. Illustrate mitigation and risk reduction strategies(L3)

#### **TEXT BOOKS:**

1. H.K.Guptha, "Disaster management", 2<sup>nd</sup> Edition, University Press, 2001.
2. R. B. Singh (Ed), "Disaster Management", Rawat Publication, New Delhi, 2000.

#### **REFERENCES:**

1. S.Seetharaman, "Construction Engineering and Management", 4<sup>th</sup> Edition, Umesh publications, New Delhi, 1999
2. Gupta, M.C., "Manuals on Natural Disaster management in India", National Centre for Disaster Management, IIPA, New Delhi, 2002.
3. Disaster Management Guidelines. GOI-UNDP Disaster Risk Reduction Programme (2009-2012).