

### **UNIT I: INTRODUCTION**

Fundamental concepts of hazards, risk, vulnerability and capacity, Zonation of hazards, Multiple Area Hazards, Disasters in context of climate change, Disaster and National losses, historical perspective of disasters in India.

Geoinformatics based Early warning system

### **UNIT II: GEOLOGICAL HAZARDS**

Earthquake, Landslide, Glacial hazards, Volcanic hazards, Mining hazards: land subsidence, mine flooding, coal mine fire, Geoinformatics models for Geological hazards

### **UNIT III: HYDROMETEOROLOGICAL HAZARDS**

Flash floods, river floods, urban floods, Coastal hazards, Cyclones, tsunami, sea level rise, Drought, Lightning hazards, Geoinformatics models for Hydro meteorological hazards

### **UNIT IV: ENVIRONMENTAL HAZARDS**

Forest hazards: deforestation, degradation and forest fire, Land & soil degradation, Desertification, Pollution: water, air, soil, solid waste dumping and oil spills, Geoinformatics models for Environmental hazards

### **RECOMMENDED READINGS**

- P.S. Roy (2000). Natural Disaster and their mitigation. Published by Indian Institute of Remote Sensing (IIRS).
- Sdidmore A (2002) Environmental Modelling with GIS & Remote Sensing, Taylor & Francis.
- Anji Reddy. M. (2004) Geoinformatics for environmental Management. B. S. Publication.
- Alexander David, Introduction in 'Confronting Catastrophe', Oxford University Press, 2000
- Andharia J. Vulnerability in Disaster Discourse, JTCDM, Tata Institute of Social Sciences Working Paper no. 8, 2008
- Blaikie, P, Cannon T, Davis I, Wisner B 1997. At Risk Natural Hazards Peoples' Vulnerability and Disasters, Routledge.
- Coppola P Damon, 2007. Introduction to International Disaster Management,
- Carter, Nick 1991. Disaster Management: A Disaster Manager's Handbook. Asian Development Bank, Manila Philippines.
- Cuny, F. 1983. Development and Disasters, Oxford University Press.
- Document on World Summit on Sustainable Development 2002. Govt. of India: Disaster Management Act 2005, Government of India, New Delhi.
- Government of India, 2009. National Disaster Management Policy,
- Gupta Anil K, Sreeja S. Nair. 2011 Environmental Knowledge for Disaster Risk Management, NIDM, New Delhi