



**Minor Degree  
in  
Disaster Sciences  
(Under NEP-2020)  
Offered by  
Centre for Disaster Risk Reduction**

**Syllabus for 1<sup>st</sup> Semester**

| Course Code   | Course Title    | Credits   | L        | T        | P        | S        |
|---|-----------------|-----------|----------|----------|----------|----------|
| <b>CDRR100MN</b>  | <b>Types of</b> | <b>04</b> | <b>3</b> | <b>1</b> | <b>0</b> | <b>0</b> |
| <b>Course Objectives:</b><br>This course introduces core definitions and concepts in disaster studies, and provide an overview of natural, biological, technological, and anthropogenic hazards, with a focus on vulnerability.   |                 |           |          |          |          |          |
| <b>Course Outcomes:</b><br>Students will be able to define key disaster terms, classify different hazard types, explain the risk-vulnerability-capacity relationship, and understand the vulnerability profile of Jammu and Kashmir.  |                 |           |          |          |          |          |
| <b>Course Content</b>   |                 |           |          |          |          |          |
| <b>UNIT-I: Introduction (15 Hours)</b><br>Hazards and Disasters – Definition; Key concepts in disaster studies – hazard, disaster, vulnerability – physical, social, economic and environmental; Risk, Exposure, Preparedness, Mitigation, Capacity, Resilience, etc. Relationship between Risk, Hazard, Vulnerability, and Capacity. Vulnerability profile of Jammu and Kashmir. |                 |           |          |          |          |          |
| <b>Unit-II: Natural Hazards (15 Hours)</b><br>Definition and Types of Natural Hazards; Geological Hazards – Earthquakes, Landslides, Volcanoes, Land Subsidence, Liquefaction, and Tsunamis; Hydro-Meteorological Hazards – Floods, Cloud Bursts, Flash-floods, Glacier Lake Outburst Floods (GLOFs), Droughts, Cyclones, Snow Avalanches, Hailstorms, Cold and Heat Waves.       |                 |           |          |          |          |          |
| <b>Unit-III: Biological and Technological Hazards (15 Hours)</b><br>Definition and Types of Biological Hazards – Pandemics, Epidemics, Pest Attacks, and Forest Fires; Definition and Types of Technological Hazards – Chemical, Industrial, Radiological, and Nuclear.   |                 |           |          |          |          |          |
| <b>Unit-IV: Anthropogenic Hazards (15 Hours)</b><br>Definition and Types of Anthropogenic Hazards – Rural and Urban Fires; Pollution – Water, Air, and Soil; Industrial Pollution; Environmental Degradation; War and Terrorism, Accidents – Air, Sea, Rail, and Roads.   |                 |           |          |          |          |          |

**Suggested Reading:**

- Vaidyanathan, S., 2020. *An introduction to disaster management*.
- Alexander, D., 2018. *Natural disasters*. Routledge.
- Singh, R.B., 2012. *Natural Hazards & Disaster Management Vulnerability and Mitigation*. Rawat Publications.
- Smith, K. (1997). *Environmental hazards: assessing risk and reducing disaster*. *Environment International*, 23(3), 422-422.
- “Understanding Disasters” [https://nidm.gov.in/PDF/Disaster\\_about.pdf](https://nidm.gov.in/PDF/Disaster_about.pdf)