CEOE-003: *Disaster Management*

	L	T	P	Credit
	3	**0**	**0**	**3**

Course Outcomes: At the end of the course, the student will be able to:

CEOE-003.1	Analyze relationship between Development and Disasters.
CEOE-003.2	Understand impact of Disasters and realization of societal responsibilities
CEOE-003.3	Apply Disaster management principles.

Mapping of course outcomes with Program Outcomes

CO	PO1: Engineering knowledge	PO2 Problem analysis	PO3:Design/development of solutions	PO4:Conduct investigations of complex problems	PO5:Modern tool usage	PO6: The engineer and society	PO7:Environment and sustainability	PO8:Ethics	PO9:Individual and team work	PO10:Communication	PO11:Project management and finance	PO12:Life-long learning
CEOE-003.1	3	3			2				3			3
CEOE-003.2	3	3			2				3			3
CEOE-003.3	3	3							3			3

Unit-I: Introduction:
1.1 Concepts and Definitions.
1.2   Disasters Classification; Natural Disasters (Floods, Draught, Cyclones, Volcanoes, Earthquakes, Tsunami, Landslides, Coastal Erosion, Soil Erosion, Forest Fires etc.);
1.3 Man-Made Disasters (Industrial Pollution, Artificial Flooding in Urban Areas, Nuclear Radiation, Chemical Spills, Transportation Accidents, Terrorist Strikes, etc.)

Unit-II:

2.1 Hazard and vulnerability profile of India, mountain and coastal areas, ecological fragility.
2.2 Factors affecting vulnerability such as impact of developmental projects and environmental modifications (including of dams, land use changes, urbanization etc.
2.3 Disaster Impacts (Environmental, Physical, Social, Ecological, Economic, Political, etc.);
2.4 Health, Psycho-Social Issues; Demographic Aspects (Gender, Age, Special Needs);
2.5 Hazard Locations; Global and National Disaster Trends;
2.6 Climate Change and Urban Disasters.

Unit-III:
3.1 Disaster Risk Reduction (DRR)
3.2 Disaster Management Cycle – its Phases; Prevention, Mitigation, Preparedness, Relief And Recovery; Structural and Non-Structural Measures; Risk Analysis, Vulnerability And Capacity Assessment; Early Warning Systems, Post Disaster Environmental Response (Water, Sanitation, Food Safety, Waste Management, Disease Control, Security, Communications);
3.3 Roles and Responsibilities of Government, Community, Local Institutions, NGOs and Other Stakeholders;
3.4 Policies and Legislation for Disaster Risk Reduction, DRR Programmes In India and the Activities of National Disaster Management Authority.

Text / Reference Books:
1. R. Subramanian, Disaster Management, Vikas Publishing House (2018)
2. Bhandari and Rajendra Kumar, Disaster Education and Management, Springer, 2016.
3. NIDM publications, https://nidm.gov.in/books.asp
4. http://ndma.gov.in/ (Home page of National Disaster Management Authority) http://www.ndmindia.nic.in/ (National Disaster management in India, Ministry of Home Affairs).
5. Pradeep Sahni, 2004, Disaster Risk Reduction in South Asia, Prentice Hall.
6. Singh B.K., 2008, Handbook of Disaster Management: Techniques & Guidelines, Rajat Publication. Ghosh G.K., 2006, Disaster Management, APH Publishing Corporation
7. Inter Agency Standing Committee (IASC) (Feb. 2007). IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings. Geneva: IASC