

BCLE212L	NATURAL DISASTER MITIGATION AND MANAGEMENT	L	T	P	C
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Pre-requisite	NIL	Syllabus version			
		1.0			
Course Objectives					
The objectives of this course is to :					
1. Provide adequate knowledge about disaster mitigation, preparedness, response, and recovery to face disaster among government bodies, institutions, NGO's, etc.					
2. Obtain the knowledge different disaster and its preparedness and mitigation methods.					
3. Provide adequate knowledge about applications of space technology in disaster monitoring and information dissemination.					
Course Outcomes					
Upon completion of this course, the student will be able to :					
1. Understand the safety precautions and how to handle the disasters.					
2. Develop skills in different disasters and its mitigation methods.					
3. Examine how quickly to response and prepared for different disasters.					
4. Understand how the space and communication technology used in disaster monitoring and early warning.					
5. Learn the current affairs on disaster management and resilience to disasters.					
Module: 1	Introduction to Disasters				7 hours
Natural Disasters Principles, Elements, Important Community needs-Hyogo Framework for Action (HFA)–Sendai Framework for Disaster Risk Reduction-Disaster Management System-Hazard, Vulnerability and Risk–History of Disaster Management in India-Disaster Management Act-Disaster Management Structure in India-Nodal Agencies for Disaster Management in India-Disaster Types.					
Module: 2	Water and Climate Related Disasters				6 hours
Floods, Cyclones-Tornadoes and Hurricanes, Hailstorm, Cloud Burst, Heat Wave and Cold Wave, Snow Avalanches, Droughts, Famine, Sea Erosion, Thunder and Lighting – Definition, Cause, Types, Safety Precautions.					
Module: 3	Geology Related Disasters				5 hours
Landslides and Mudflows, Earthquakes, Dam Failures / Dam Bursts, Mine Fires, Tsunami– Definition, Cause, Types, Safety Precautions.					
Module: 4	Chemical, Nuclear and Biological Related Disasters				5 hours
Chemical and Industrial Disasters, Nuclear Disasters, Biological Disaster and Epidemics Pest Attacks, Cattle Epidemics, Food Poisoning-Definition, Cause, Types, Safety Precautions.					
Module: 5	Accident Related Disasters				6 hours
Forest Fires, Urban Fires, Mine Flooding, Oil Spill, Major Building Collapse, Serial Bomb Blasts, Festival Disasters and Fires, Electrical Disasters and Fires, Air, Road and Rail Accidents, Boat Capsizing, Village Fire-Definition, Cause, Types, Safety Precautions.					
Module: 6	Mapping and Monitoring				7 hours
Modelling, risk analysis and loss estimation–Natural disaster risk Reduction Strategies-Prevention and mitigation-Applications of Space Technology (Satellite Communications, GPS, GIS and Remote Sensing and Information / Communication Technologies (ICT) in Early warning Systems-Disaster Monitoring and Support Centre–Information Dissemination–Mobile Communications-Social Media etc through case studies.					
Module: 7	Community Based Disaster Risk Reduction				7 hours
Psychological effects after disasters-Socio Psycho care-Managing stress–Education and Training–Establishment of capacity building among various stake holders–Government, Educational institutions, Civil Society–Use of Multi-media knowledge products for self-education.					

Module: 8		Contemporary Issues		2 hours	
Total Lecture Hours				45 hours	
Text Book(s)					
1	Bhandari, R.K, Disaster Education and Management, A Joyride for Students, Teachers and Disaster Managers, 2014, Springer, India.				
2	Ranke, Ulrich, Natural Disaster Risk Management-Geosciences and Social Responsibility, 2016, First Edition, Springer International Publishing.				
Reference Books					
1	Brian Tomaszewski, Geographic Information Systems (GIS) for Disaster Management, 2014, CRC Press, UK.				
2	Harsh K. Gupta, Disaster Management, 2006, Second Edition, Indian National Science Academy.				
3	Dhawan, Disaster Management and Preparedness, 2012, First Edition, CBS Publisher Pvt. Ltd.				
Mode of Evaluation: CAT, Assignment, Quiz, FAT.					
Recommended by Board of Studies			24.02.2022		
Approved by Academic Council			No. 65	Date	17-03-2022