

DISASTER MANAGEMENT

VI Semester: ECE								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
ACEB53	Elective	L	T	P	C	CIA	SEE	Total
		3	-	-	3	30	70	100
Contact Classes: 45		Tutorial Classes: Nil		Practical Classes: Nil			Total Classes: 45	
<p>COURSE OBJECTIVES: The student will try to learn:</p> <ul style="list-style-type: none"> I The concept of environmental hazards, disasters and various approaches dealing with the mitigation of disasters. II The knowledge on various types of environmental disasters and their impacts on human beings and nature. III The Different types of endogenous and exogenous hazards and their influence on human life and nature. IV The immediate response and damage assessment with information reporting and monitoring tools. <p>COURSE OUTCOMES: After successful completion of the course students are able to:</p> <ul style="list-style-type: none"> CO 1 Classify Environmental hazards for developing modern disaster management system. CO 2 Explain various approaches for reducing the level of risk associated with Disasters. CO 3 Compare Natural and manmade disasters for finding out intensity of damage loss occurred by them. CO 4 List various hazards and their effects for evaluating their impact on society and Environment. CO 5 Explain human adjustments and perception towards hazards for mitigation of disasters. CO 6 Summarize disaster phenomenon and its different contextual aspects for implementing the Disaster Risk Reduction Strategy. CO 7 Explain the characteristics of natural disasters used for mitigating of risk involved in property and life loss. CO 8 Classify Environmental disasters for developing modern disaster risk reduction system. 								
MODULE-I	ENVIRONMENTAL HAZARDS AND DISASTERS						Classes: 09	
<p>Environmental hazards and disasters: meaning of environmental hazards, environmental disasters and environmental stress; concept of environmental hazards, environmental stress and environmental disasters, different approaches and relation with human ecology, landscape approach, ecosystem approach, perception approach, human ecology and its application in geographical researches.</p>								

MODULE-II	TYPES OF ENVIRONMENTAL HAZARDS AND DISASTERS	Classes: 09
Types of environmental hazards and disasters: Natural hazards and disasters, man induced hazards and disasters, natural hazards, planetary hazards/ disasters, extra planetary hazards/ disasters, planetary hazards, endogenous hazards, exogenous hazards.		
MODULE-III	ENDOGENOUS HAZARDS	Classes: 09
Endogenous hazards, volcanic eruption, earthquakes, landslides, volcanic hazards/ disasters, causes and distribution of volcanoes, hazardous effects of volcanic eruptions, environmental impacts of volcanic eruptions.		
Earthquake hazards/ disasters, causes of earthquakes, distribution of earthquakes, hazardous effects of earthquakes, earthquake hazards in India, human adjustment, perception and mitigation of earthquake.		
MODULE-IV	EXOGENOUS HAZARDS	Classes: 09
Exogenous hazards/ disasters, infrequent events, cumulative atmospheric hazards/ disasters; Infrequent events: Cyclones , lightning , hailstorms; Cyclones: Tropical cyclones and local storms, destruction by tropical cyclones and local storms (causes, distribution human adjustment, perception and mitigation); Cumulative atmospheric hazards/ disasters: Floods, droughts, cold waves, heat waves floods; Causes of floods, flood hazards India, flood control measures (human adjustment, perception and mitigation); Droughts: Impacts of droughts, drought hazards in India, drought control measures, extra planetary hazards/ disasters, man induced hazards /disasters, physical hazards/ disasters, soil erosion, Soil erosion: Mechanics and forms of soil erosion, factors and causes of soil erosion, conservation measures of soil erosion; Chemical hazards/ disasters: Release of toxic chemicals, nuclear explosion, sedimentation processes; Sedimentation processes: Global sedimentation problems regional sedimentation problems, sedimentation and environmental problems, corrective measures of erosion and sedimentation, biological hazards/ disasters, population explosion.		
MODULE-V	EMERGING APPROACHES IN DISASTER MANAGEMENT	Classes: 09
Emerging approaches in Disaster Management, Three Stages 1. Pre, disaster stage(preparedness) 2. Emergency Stage 3. Post Disaster stage, Rehabilitation.		
Text Books:		
1. Pardeep Sahni, “Disaster Mitigation: Experiences and Reflections”, PHI Learning Pvt. Ltd., 1 st Edition, 2001. 2. J.Glynn,GaryW.HeinKe,“EnvironmentalScienceandEngineering”,PrenticeHallPublishers, 2 nd Edition, 1996.		
Reference Books:		
1. B. C. Punmia, Ashok K Jain and Arun K Jain, “Mechanics of Materials”, Laxmi Publications Pvt. Ltd., New Delhi, 12 th Edition, 2007. 2. R. Subramanian, “Strength of Materials”, Oxford University Press, 2 nd Edition, 2010. 3. D. S. Prakash Rao, “Strength of Materials A Practical Approach Vol.1”, Universities Press (India) Pvt. Ltd., India, 3 rd Edition, 2007. 4. J. M. Gere, S.P. Timoshenko, “Mechanics of Materials, SI units edition”, CL Engineering, USA, 5 th Edition, 2000.		