

INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

ELECTRICAL AND ELECTRONICS ENGINEERING

QUESTION BANK

Course Title	DISASTER MANAGEMENT				
Course Code	ACEC31				
Program	B.Tech				
Semester	VI EEE				
Course Type	Open Electiv	е			
Regulation	IARE - UG20	0			
		Theory		Pract	tical
Course Structure	Lecture	Tutorials	Credits	Laboratory	Credits
	3 - 3				
Course Coordinator	Ms.B Bhavar	ni, Assistant Pr	ofessor		

COURSE OBJECTIVES:

The students will try to learn:

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.

COURSE OUTCOMES:

After successful completion of the course, students should be able to:

CO 1	Classify Environmental hazards for developing modern disaster	Understand
	management system.	
CO 2	Illustrate various approaches for reducing the level of risk	Understand
	associated with Disasters	
CO 2	Compare natural and manmade disasters for finding out intensity	Understand
	of damage loss occurred by them.	

CO 3	List various hazards and their effects for evaluating their impact on	Remember
	society and Environment.	
CO 4	Outline human adjustments and perception towards hazards for	Understand
	mitigation of disasters	
CO 3	Summarize disaster phenomenon and its different contextual	Understand
	aspects for implementing the Disaster Risk Reduction Strategy.	

QUESTION BANK:

Q.No	QUESTION	Taxonomy	How does this subsume the level	CO's
		MODULE	I	
	EMERGING APPROA	CHES IN DIS	SASTER MANAGEMENT	
PA	RT A-PROBLEM SOLVIN	G AND CRIT	TICAL THINKING QUEST	ΓIONS
1	Explain how Sustainable	understand	Learner to recall the	CO 2
	management of natural		concepts of resource	
	resources is essential to		management and explain	
	provide Livelihood and		its importance of	
	environmental security.		environment.	
2	Summarize, how the	understand	Learner to recall the	CO 2
	occurrence of EL NINO		concepts of El Nino and	
	events affects global		explain its effects on	
	climate?		environment.	
3	Explain the concept of first	understand	Learner to recall the	CO 2
	responder with special		concepts of first responder	
	reference to the role of the		and understand the	
	government in first		government role in first	
	response.		response.	
4	Explain the principles of	understand	Learner to recall the	CO 2
	disaster mitigation and		mitigation principles and	
	elaborate the Problem areas		explain various problems	
	in disaster mitigation.		that occurred during	
			mitigation of disaster.	
5	Discuss the relationship	understand	Learner to recall the	CO 2
	between disaster and		concepts of disaster,	
	development with the help		development and	
	of examples from developed		understand the working	
	and developing countries.		mechanism of disaster	
			management in developed	
			countries.	

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6	Explain national guidelines	understand	Learner to recall the effects	CO 1,
	for temporary shelter		of disasters, and explain	CO 2
	provision during disasters.		the guidelines for shelter	
			provision by the	
			government.	
7	Determine various methods	understand	Learner to recall various	CO 2
	for rescuing affected persons		rescue methods and	
	in a disaster situation		explain how they were	
			helped during emergency	
			situations.	
8	Discuss the role and	understand	Learner to recall working	CO 2
	functions of a Disaster		mechanism of disaster	
	Manager		management and explain	
			the importance of disaster	
			management.	
9	recall the significance of	remember	-	CO 1,
	planning for ensuring			$\stackrel{'}{\text{CO}}$
	disaster prevention			
10	Explain different key	understand	Learner to recall and	CO 1,
	environmental concerns		understand the Various	$\stackrel{'}{\text{CO}}$
	pertaining to disasters,		concerns regarding disasters	
11	Explain Risk Assessment	understand	Learner to recall and	CO 1,
	and underline the		understandthe concepts of	CO_2
	methodologies for		risk assessment for disaster	
	conducting risk assessment.		management	
	PART B-LO	NG ANSWE	R QUESTIONS	
1	Define environmental stress	Remember	_	CO 1
	and write a note on what			
	bases the stresses are			
	categorised.			
2	Explain natural disaster and	understand	Learner to define types of	CO 2
	manmade disaster and its		disasters and explain the	
	effects on environment and		effects on environment and	
	society.		society.	
3	Compare different	understand	Learner to recall the	CO 2
	approaches to disaster		concepts of various	
	management with various		approaches and explain	
	case studies.		them with different case	
			studies.	
4	List out various types of	Remember	_	CO 1
	environmental disasters and			
	give example for each.			

5	Compare physical Psychosocial and mechanical hazards	understand	Learner to define the concepts of hazards and explains them by comparing with other hazards.	CO 1
6	List out various types of Approaches which are used in disaster management	Remember		CO 1, CO 2
7	Define various types of stressors and explain its effects on humans	understand	Learner to recall the concepts stressors and explain its effects on humans	CO 1, CO 2
8	Explain chemical and biological hazards.	understand	Learner to recall the concepts of hazards and explain various types of hazards.	CO 2
9	Define human ecology and describe how it is related to Disasters	Remember	_	CO 1
10	Summarize Ecosystem Approach and perception approach	understand	Learner to recall the concepts of approaches and explain eco and perception approaches.	CO 2
11	Explain key environmental concerns pertaining to disasters	understand	Learner to recall various environmental issues and explain how they are becoming disasters.	CO 1
12	Define ecology, human ecology and human perception towards disaster mitigation	understand	Learner to recall the concepts of ecology, human ecology and explain human perception for disaster mitigation	CO 2

	PART-C SHO	ORT ANSWE	R QUESTIONS	
1	Define various types of environmental hazards and disasters	Remember	_	CO 1
2	Distinguish between natural disaster and man-made disasters?	understand	Learner to recall the concepts of types of disasters and explain the difference between them.	CO 2
3	State any two impacts of disaster that has on community.	Remember	_	CO 1
4	When will hazards can become a disaster?	Remember	_	CO 1
5	Describe a disaster?	understand	Learner to recall the concepts of disaster phenomenon and explain their impact on society and humans.	CO 2
6	Classify environmental stresses in atmosphere.	understand	Learner to Definethe concept of stresses and explain various types of stresses in environment.	CO 2
7	List out various types of Environmental Hazards and their effects on society.	Remember	_	CO 1
8	Explain biological hazards and their effects on humans.	understand	Learner to recall the concepts of biological hazards and explain its effect on humans.	CO 2
9	Define flash flood and explain its impact on environment.	understand	Learner to define the concept of flash flood and explain its impact on humans.	CO 1, CO 2
10	Define chemical and physical hazards.	Remember	-	CO 1
11	Define and give some examples of stressors	Remember	-	CO 1
12	Define physical hazards with an example	Remember	-	CO 1
13	Define various approaches for disaster mitigation	Remember	-	CO 1

MODULE II TYPES OF ENVIRONMENTAL HAZARDS AND DISASTERS PART A-PROBLEM SOLVING AND CRITICAL THINKING QUESTIONS CO_2 1 Explain cyber terrorism and understand Learner to **recall** and Summarize forms and understand the concepts of cyber terrorism and its impacts effects. 2 Explicit a brief note on understand Learner to **recall** and CO 2 psychological and social understand the concepts dimensions of disaster slopes and deflections and solve the slopes and deflections for a given beam. Learner to **recall** and 4 Illustrate manmade understand CO 2, (anthropogenic) disaster understand the concepts CO 3, and list out various of disasters and its types. manmade disasters 5 Explore the positive human understand Learner to recall CO 2, CO 3, impact on environment and explain how positive human will helps in mitigating disasters. 6 Explain the negative effects understand Learner to **recall** and CO 2, of oil drilling understand the effects of CO 3 oil drilling on environment. 7 Illustrate top ten terrifying understand Learner to **recall** and CO 2, explain various disasters CO_3 disasters in history and Specify organization chart occurred in history and for emergency show mitigation plans for environmental health them. activities 8 Summarize various understand Learner to **recall** and CO 2, CO 3 categories of natural understand various categories of hazards and hazards and their effects their effects 8 Explain biological hazards understand Learner to **recall** the CO_2 and their effects on humans. concepts of biological hazards and explain its effect on humans. 9 Explain the causes of sea understand Learner to **recall** and CO 2, level rise and its effect on understand the concepts CO_3 humans and environment of global warming and its effects

	PART B-LONG ANSWER QUESTIONS				
1	Explain a) cold waves b) Heatwaves and c) soilErosion	understand	Learner to recall the concepts of cold, hot waves and soil erosion explain their effects on society.	CO 2, CO 3	
2	Relate floods as a serious environmental hazard.	understand	Learner to recalland understand the effects of floods on society and environment	CO 2, CO 3	
3	What are the consequences of the of drought and Summarize its effects on society.	understand	Learner to recall and understand the effects of droughts on society	CO 2, CO 3	
4	What is sea level rise and explain its causes and effects?	understand	Learner to recall and understand the concepts of global warming.	CO 2, CO 3	
5	Summarize global atmospheric changes.	understand	Learner to recall and explain the causes of atmospheric changes.	CO 2, CO 3	
6	Compare natural disaster and man-made disaster	understand	Learner to recall and understand the concepts of different types of disasters.	CO 2, CO 3	
7	Explain planetary and extra planetary hazard with a flow chart.	understand	Learner to recall and understand different types of hazards.	CO 2, CO 3	
8	Illustrate planetary hazards with example	understand	Learner to recall and understand the concepts of planetary hazards.	CO 2, CO 3	
9	Summarize causes of floods and explore various harmful effects of floods.	understand	Learner to recall and understand the concepts of floods and its causes.	CO 2, CO 3	
10	Illustrate the methods of controlling floods.	understand	Learner to recall and understand the concepts of flood control methods.	CO 2, CO 3	
11	Examine the role of corporate social responsibility as an emerging avenue in managing disasters.	understand	Learner to recall and understand role of corporate social responsibility as an emerging avenue in managing disasters	CO 2, CO 3	
12	Illustrate floods as a serious environmental hazard with an example	understand	Learner to recall and understand the concepts of floods and its effects.	CO 2, CO 3	

	PART-C SHO	ORT ANSWE	R QUESTIONS	
1	Define disaster and classify various types of disasters.	Remember	_	CO 2
2	Define social hazard.	Remember	_	CO 2
3	What are the effects of cyclones	Remember	_	CO 2
4	Define different types of man-Induced hazards.	Remember	_	CO 3
5	recall various types of natural hazards.	Remember	_	CO 2
6	Define meteorological hazards.	Remember	_	CO 3
7	Define earthquake hazard? What causes earthquake.	Remember	_	CO 3
8	recall the harmful effects of earthquakes?	Remember	_	CO 3
9	Define extra planetary hazard	Remember	_	CO 3
10	What are the causes for earthquakes	Remember	_	CO 3
11	Define planetary hazard	Remember	_	CO 3
14	What are technological disasters	Remember	_	CO 3
		MODULE I	II	
		OGENOUS H.		
			FICAL THINKING QUEST	
1	Illustrate various types of earthquakes and explain earthquake zonation in India.	understand	Learner to recall and understand the concepts of types of earthquakes.	CO 3
2	Summarize briefly about the effects of earthquakes on the environment.	understand	Learner to recall and understand the concepts of earthquakes and its effects	CO 3
3	List out the causes and hazardous effects of Volcanic eruptions?	understand	Learner to recall and understand the concepts of Volcanic eruptions	CO 4, CO 3,
4	State different types disasters and illustrate an example from a real incident.	understand	Learner to recall and understand the concepts of disasters and explain with an example.	CO 3

5	Explain a brief note on	understand	Learner to recall and	CO 4
	volcanoes. What are the hazards involved?		understand the concepts of volcanoes and their effects.	
6	List different types of	understand	Learner to recall and	CO 4,
	disasters and write a short		understand different types	CO 3,
	note on each of them.		of disasters.	
7	Explain various types of	understand	Learner to recall and	CO 4,
	earthquakes and its impact		understand the concepts	CO 3,
	on environment and humans		of earthquakes	
	PART-B LO	NG ANSWEI	R QUESTIONS	
1	Explain earthquakes and	understand	Learner to recall and	CO 4,
	What are its causes?		understand the concepts of	CO(3)
			earthquakes and its causes.	
2	Illustrate various mitigation	understand	Learner to recall and	CO 4,
	measures to be taken at the		understand the concepts	CO 3
	time of earthquakes?		of earthquake mitigation	
3	Define man-made landslides.	understand	Learner to recall and	CO 4,
	What are the mitigation		understand the concepts	CO 3
	measures we need to take at		of landslides and its	
	the time of land-slides.		mitigation measures.	
4	Explain various	understand	Learner to recall and	CO 4,
	environmental Impacts of		understand the concepts	CO 3
	Volcanic Eruptions?		of volcanoes and its effects	
			on environment.	
5	Explain the causes and	understand	Learner to recall and	CO 4,
	types of volcanoes		understand the concepts	CO 3
			of volcanoua and its types.	
6	Explain Human Adjustment	understand	Learner to recall and	CO 3
	and perception towards		understand the concepts	
	earthquake.		of Human Adjustment and	
			perception towards	
			earthquake	
7	State epicenter and focus	understand	Learner to recall and	CO 3
	with a neat diagram. Based		understand the concepts	
	on depth how many types of		of epicenter and focus and	
	earthquake are classified.		explain various types of	
			earthquakes.	
8	Illustrate endogenous	understand	Learner to recall and	CO 3,
	hazards. Give some		understand the concepts	CO 4,
	examples.		of endogenous hazards.	

9	Explain various mitigation steps taken towards earthquake hazards	understand	Learner to recall and understand the concepts of earthquake hazards and its mitigation.	CO 4, CO 3
10	Summarize seismic zonation of India	understand	Learner to recall and understand the concepts of seismic zonation	CO 4, CO 3
	T	1	R QUESTIONS	
1	State seismic activity	Remember	_	CO 4
2	What are various geological hazards	Remember	_	CO 4
3	What is volcanic Ash	Remember	_	CO 4
4	Define Endogenous Hazards?	Remember	_	CO 4
5	Define landslides	Remember	_	CO 4
6	List different types of atmospheric hazards.	Remember	_	CO 4
7	Define atmospheric hazard	Remember	_	CO 4
8	How earthquake occurs	Remember	_	CO 4
9	recall plate tectonic movements	Remember	_	CO 4
10	List out various materials comes out from volcanic eruptions?	Remember	_	CO 3
11	Describe magma	Remember	_	CO 3
12	Explore the duties of National Disaster Management Authority of India	Remember	_	CO 3
13	Describe about earthquake risk reduction	Remember	_	CO 3
14	Describe Lava	Remember	_	CO 3
15	Explicit the effects of earthquake on buildings.	Remember	-	CO 3
16	Highlight various mitigation measures to be taken at the time of earthquakes?	Remember	_	CO 3
17	Explicit a note on man-made landslides. State what are the mitigation measures at the time of land-slides.	Remember	_	CO 3

		MODULE I	V	
	EXO	GENOUS HA	ZARDS	
PA	RT- A PROBLEM SOLVIN	G AND CRIT	FICAL THINKING QUEST	ΓΙΟΝS
1	Summarize briefly the pattern of global population growth in recent years which is causing alarm to environmental experts.	understand	Learner to recall and understand the importance of concerns over population growth	CO 5,
2	Explain Bhopal on gas tragedy.	understand	Learner to recall and explain Bhopal gas tragedy.	CO 5
3	Illustrate pesticide pollution with an example.	understand	Learner to recall and explain theeffects of pesticide on environment and humans.	CO 5,
4	Explain main causes of nuclear hazards?	understand	Learner to recall and understand the effects of nuclear hazards.	CO 5,
5	Explain nuclear accidents and the Chernobyl disaster.	understand	Learner to recall and understand the causes of nuclear accidents and its effects.	CO 5
6	Explicit briefly about the steps that need to be taken as part of an overall plan for achieving global population stabilization.	understand	Learner to recall and explain various strategies for population stabilization.	CO 5,
7	List out various effects of pesticides on the environment?	understand	Learner to recall and understand the concepts of slopes and deflections and solve for the fixed end moments and deflections.	CO 4
8	Summarize disaster mitigation and discuss the contribution of United Nations agencies in it.	understand	Learner to recall and understand the concepts of disaster mitigation and explain how United Nations agencies were helping.	CO 6
9	List and explain the major facets of disaster management in coastal regions	understand	Learner to recall and understand the concepts of coastal disaster management	CO 5

10	Illustrate the important steps in relief distribution and summarize the different types of damages that occur due to disasters. State vulnerability and discuss the vulnerability.	understand understand	Learner to recall and understand the important steps in relief distribution and explain effects of disasters. Learner to recall and understand the concepts	CO 5, CO 6
	discuss the vulnerability profile of India.		understand the concepts of vulnerability and explain vulnerability of India.	000
	PART B-LO	NG ANSWEI	R QUESTIONS	
1	Explain floods as a serious environmental hazard.	understand	Learner to recall and explain the effects of floods on environment	CO 3
2	Explain various flood control measures taken in India	understand	Learner to recall and understand the various flood measures taken to mitigate the disaster.	CO 4
3	Summarize the consequences of drought.	understand	Learner to recall and explain the effects of drought on humans and environment.	CO 3
4	Explain effects of droughts and write a note on the drought control measures adopted across the globe.	understand	Learner to recall,understand the effects of droughts and explain various drought control measures adopted across the globe.	CO 4
5	Explain the genetic disorders caused by radiation pollution.	understand	Learner to recall and understand the genetic disorders caused by radiation pollution.	CO 4, CO 3
6	Illustrate population explosion and its control with an example.	understand	Learner to recall and explain effects of population explosion and its measures.	CO 4
7	Explicit briefly about the steps that need to be taken as part of an overall plan for achieving global population stabilization.	understand	Learner to recall and explain the steps for achieving population stabilization.	CO 4, CO 3

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8	Illustrate the pattern of	understand	Learner to recall and	CO 4,
	global population growth in		understand the concerns	CO 3
	recent years which is		over population growth.	
	causing alarm to			
0	environmental experts.	1 , 1	T / 11 1	CO 0
9	List out some ways and	understand	Learner to recall and	CO 3,
	methods to destroy cyclones		understand the concepts	CO 4,
	and explain them.		cyclone and explain various	
10		1 1 1	methods to destroy them.	GO 4
10	Compare various types of	understand	Learner to	CO 4, CO 3
	floods and discuss its effects and causes.		recall, understand the	CO 3
	and causes.		concepts of floods, its effects and causes.	
11	E1-: 41 - 9 1			CO 4
11	Explain the flood-prone regions in India.	understand	Learner to recall and exaplin the causes of floods	CO 4, CO 3
	regions in findia.		and its regions in India	CO 3
12	W/h-+	understand	Learner to recall and	CO 2
12	What are the causes of cold	understand	understand the concept of	CO 3,
	waves and explain its effects?		cold waves and its effects on	
	enects:		environment.	
13	Illustrate the floods hazards	understand	Learner to recall and	CO 3
10	of India in the past years.	understand	explain the flood hazards	003
	of findia in the past years.		with an example.	
	PART- C SH	ORT ANSWE	R QUESTIONS	
1	Find different categories of	Remember		CO 3
1	cyclones and explore them.	recincinisei		000
2	Tell how cyclones are	Remember	_	CO 3
-	formed	recincinisei		000
3	Tell the structure of cyclone.	Remember	_	CO 3
4	List flood-prone regions in	Remember	_	CO 3
4	India.	rtemember		003
5	Define soil erosion	Remember	_	CO 3
6	List various flood control	Remember	_	CO 3
U	measures	remember		003
7	Define sedimentation	Remember	_	CO 4
8	Define biological hazards	Remember	_	CO 4
9	Define population explosion	Remember	_	CO 4
Э	as a hazard	Remember		004
10	What are the causes of heat	Remember	_	CO 4
- 9	waves			
11	Define Nuclear Explosion	Remember	_	CO 4

MODULE V EMERGING APPROACHES IN DISASTER MANAGEMENT PART- APROBLEM SOLVING AND CRITICAL THINKING QUESTIONS CO 4, 1 Explain briefly the use of understand Learner to **recall** and village disaster management understand the uses of CO_{5} committee. village disaster management committee. 2 List some guidelines for Remember achieving sustainable development. 3 Illustrate various provisions understand Learner to **recall** and CO 3, taken for immediate relief explain the various CO_5 measure to disaster affected provisions taken for immediate relief to disaster people? effected people. 4 Explain how do engineered understand Learner to **recall** and CO 3. understand the structures help us to CO_{5} withstand like floods. importance of structures in earthquakes, and cyclones? reducing loss of life during disaster period. understand Learner to **recall** and 5 Compare structural CO 4, mitigations and nonunderstand the concepts CO_{5} structural mitigations that of structural and nonshould be restored to in case structural mitigations. of floods. 6 Classify various Learner to **recall** and understand CO 4, CO_5 organizations which are classify various involved in the research and organizations involved in mitigation of disasters. the research and mitigation of disasters. 7 Learner to **recall** and Explain how the community understand CO 4. of a village play the most understand the CO 5important role in time of importance of first disaster as 'first responder' responder in disaster mitigation plan. 8 Illustrate how a search understand Learner to **recall** and CO_{5} rescue team assist a village understand the working in times of a hazards? mechanism of rescue team and how they are helping village people. 9 Learner to **recall** and CO_{5} List various institutions and understand national centers involved in explain various institutions natural disaster reduction. and national centers involved in natural disaster reduction.

10	Show different skills and techniques adopted by a disaster management.	understand	Learner to recall and explain various skills and techniques adopted by disaster management.	CO 5
11	Compare various major initiatives taken on Disaster Preparedness in India.	understand	Learner to recall and understand major initiatives taken on Disaster Preparedness in India.	CO 5
	PART B-LO	NG ANSWEI	R QUESTIONS	
1	Explain a brief note on the emergency stage of a disaster.	understand	Learner to recall and understand the concepts of emergency stage of a disaster.	CO 5
2	How natural disasters affect the life of humans and environment.	Remember	-	CO 5
3	Illustrate the role of technology in disaster management.	understand	Learner to recall and explain the importance of technology in disaster management with example.	CO 6
4	Show various methods to predict natural disasters.	understand	Learner to recall and understand various methods which were used to predict natural disasters.	CO 5
5	Compare various types of cyclones and explain how can people be warned of it beforehand?	understand	Learner to recall , compare different types of cyclones and understand how people be warned of it beforehand.	CO 5
6	Illustrate the various measures that should be taken for disaster management and prevention	understand	Learner to recall and understand the various measures that were taken for disaster management and prevention	CO 5
7	Summarize post-disaster stage.	understand	Learner to recall and understand the concept of post disaster stage.	CO 5
8	Explain disaster management.	understand	Learner to recall and explain the concepts of disaster management.	CO 1, CO 5

9	Summarize the phases of disaster management	understand	Learner to recall and explain various phases involved in disaster	CO 5
			management.	
10	Compare different stages of	understand	Learner to recall and	CO 5
	disaster management.		compare various stages	
	Explain in detail about		involved in disaster	
	pre-disaster stage.		management and explain	
			pre-disaster stage.	
11	Illustrate an example from a	understand	Learner to recall and	CO 5
	real incident when warning		Illustrate an example of	
	against a cyclone helped the		early warning system of	
	people.		cyclone.	
12	Summarize natural disasters	understand	Learner to recall and	CO 5
	and its mitigation strategies.		understand natural	
			disasters and its mitigation	
			strategies	
13	State the guidelines for	Remember	-	CO 5
	mitigation of disasters.			
14	Explain the importance of	understand	Learner to recall and	CO 4
	first responders in disaster		explain the importance of	
	management.		first responders in disaster	
			management.	
	PART- C SH	ORT ANSWE	R QUESTIONS	
1	Define warning systems	Remember	_	CO 6
2	recall a short notes on	Remember	_	CO 6
	mitigation planning.			
3	Show total management	Remember	_	CO 6
	cycle			
4	What is nonstructural	Remember	_	CO 6
	mitigation			
5	Define disaster cycle	Remember	_	CO 6
6	What is risk mapping	Remember	_	CO 6
7	Define pre disaster	Remember	_	CO 6
8	What is structural	Remember	_	CO 6
	mitigation			
9	State mitigation?	Remember	_	CO 6
10	Define first responder in	Remember	_	CO 6
10	terms of disasters.			

12	What is disaster cycle	Remember	_	CO 6
13	recall how mitigation helps	Remember	_	CO 6
	in prevention of disasters			

Course Coordinator: Ms.B Bhavani, Assistant Professor HOD CE