



# GUJARAT TECHNOLOGICAL UNIVERSITY

Master of Engineering

Subject Code 3724814

Semester – II

Subject Name: Environmental Impact and Disaster Management

Type of course: Program Elective - III

**Prerequisite:** Basic understanding on concept of environmental management, and its impact on disaster management.

**Rationale:** The course helps developing an understanding on environmental planning and its impact on community and disaster.

### Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE (E)	PA (M)	ESE (V)	PA (I)	
3	0	2	4	70	30	30	20	150

### Content:

Sr. No	Content	Total Hrs
1	<b>Environment, Development and Disaster Management – Interface</b> Resource use, exploitation and conservation; Impact of human activities on environment; Environment and economy interaction, introduction to environmental accounting.	12
2	<b>Environmental Management</b> Environmental Impact Assessment, thresholds, indicators, audits, environmental certification, lifecycle analysis, environment and poverty links, environmental policy, Acts and regulations; Environmental education, participatory approaches, emerging concepts. Disaster classification, concepts, hazards, vulnerability, risks, human response to disaster, impacts.	14
3	<b>Disaster Mitigation and Management</b> Relevance of disaster management in development and environment, disaster preparedness, prevention, displacement and development, Role and responsibilities of government and non-government organizations, Disaster Education – awareness of individuals, communities and participation at various levels; Integrating disaster mitigation in the spatial planning process, provision of infrastructure for disaster mitigation.	14
4	<b>Policies and Legislation Pertaining to Environment and Disaster Management</b> Policies and Legislation at various levels.	14



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Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
15	20	20	20	15	10

**Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)**

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

### Reference Books:

1. Ayaz, Disaster Management: Through the New Millennium. Anmol Publications. (2009)
2. Dave, P. K. Emergency Medical Services and Disaster Management: A Holistic Approach. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd., 2009
3. Narayan, B. Disaster Management, New Delhi: A.P.H. Publishing Corporation ,2009
4. Kumar, N. Disaster Management. New Delhi: Alfa Publications. ,2009
5. Ghosh, G. K., Disaster Management. New Delhi: A.P.H Publishing Corporation. ,2008
6. Goel, S. L., Disaster Management. New Delhi: Deep & Deep Publication Pvt. Ltd. ,2008
7. Singh, R. B. Disaster Management. New Delhi: Rawat Publications., 2008.
8. Reddy, "Environmental Impact Assessment: Theory and Practice", BSP (2016), (ISBN-10: 9352301382 ISBN-13: 978-9352301386)
9. Peter Wathern, "Environmental Impact Assessment: Theory and Practice"

### Course Outcomes:

Sr. No.	CO statement	Marks % weightage
CO-1	Decide emergency, vulnerability and the importance of disaster management to handle the situation. Prepare damage assessment of natural and manmade disasters. Work out financing relief expenditures and distribution program. Prepare emergency management program.	100

### List of Experiments:

- Case study of flood disaster and its impact on environment.
- Case study of earthquake disaster its impact on environment.
- Case study of fire disaster its impact on environment.
- Case study of cyclon disaster its impact on environment.
- Case study of explosion disaster its impact on environment.

**Major Equipment:** Computers/ Laptop with higher configuration and internet, server. DVR system

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with camera and hard drive for traffic studies

## **List of Open Source Software/learning website:**

- National Institute of Disaster Management (<http://nidm.gov.in/default.asp>)
- Gujarat State Disaster Management Authority (<http://www.gsdma.org/>)
- Gujarat Infrastructure Development Board (<http://www.gidb.org/>)
- GoI, Ministry of Home Affairs (<http://www.mha.nic.in/>)
- Google books on Planning for Disaster  
([https://www.google.co.in/search?q=Planning+disaster+management&btnG=Search+Books&tbm=bks&tbid=1&gws\\_rd=ssl](https://www.google.co.in/search?q=Planning+disaster+management&btnG=Search+Books&tbm=bks&tbid=1&gws_rd=ssl))