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Disaster Management — Complete Syllabus (Open Elective-1, Option 2)

BTEUP Diploma in Electrical Engineering • 3rd Semester • Session 2026-27
Subject 3.6 (Open Elective-1, Theory) (Q) • 50 Marks internal • 2 Credits • L 2 – P 0 •
Choose this OR Engineering Economics & Accountancy • Qualifying only

Please note — cover year vs approval: BTEUP's own file for this curriculum prints “YEAR 2025-2026” on its cover, while carrying the approval line “UPDATED AND APPROVED BY BOARD OF TECHNICAL EDUCATION U.P. LUCKNOW IN C.D.C MEETING HELD ON 16.07.2026” on every page. It is filed in BTEUP's 2026-27 folder (folder2627), so it is treated here as the 2026-27 syllabus on the strength of that approval. The scheme it carries is identical, subject for subject and mark for mark, to the 2025-26 scheme.

About this document: Open Elective-1 (3.6) is a (Q) qualifying subject — compulsory to appear and pass, but marks are not included for percentage and division. Choose either this theory course or Engineering Economics & Accountancy, or a certification course (not less than 20 hrs) from the approved providers.

Examination Scheme

Code	Paper	Type	L - P	Credits	Internal	External	Total
3.6	Disaster Management (Open Elective-1)	Theory (Q)	2 - 0	2	50	—	NA
Open Elective-1 Total				2	50	—	NA

What This Subject Aims To Do

To learn about various types of natural and man-made disasters, pre- and post-disaster management, the organisations involved in disaster management in India, and the technological tools used in disaster management.

Unit-Wise Complete Topic List

Unit	Topic	Periods	Marks Share
I	Understanding Disaster	02	10%
II	Types, Trends, Causes, Consequences and Control of Disasters	05	19%
III	Disaster Management Cycle and Framework	08	28%
IV	Disaster Management in India	05	19%
V	Applications of Science and Technology for Disaster Management	08	24%

Unit - I: Understanding Disaster (02 Periods, 10%)

Topics: Understanding the Concepts and definitions of Disaster, Hazard, Vulnerability, Risk, Capacity – Disaster and Development, and disaster management.

Unit - II: Types, Trends, Causes, Consequences and Control of Disasters (05 Periods, 19%)

Topics: Geological Disasters (earthquakes, landslides, tsunami, mining); Hydro-Meteorological Disasters (floods, cyclones, lightning, thunder-storms, hail storms, avalanches, droughts, cold and heat waves); Biological Disasters (epidemics, pest attacks, forest fire); Technological Disasters (chemical, industrial, radiological, nuclear) and Manmade Disasters (building collapse, rural and urban fire, road and rail accidents, nuclear, radiological, chemicals and biological disasters); Global Disaster Trends – Emerging Risks of Disasters – Climate Change and Urban Disasters.

Unit - III: Disaster Management Cycle and Framework (08 Periods, 28%)

Topics: Disaster Management Cycle – Paradigm Shift in Disaster Management; Pre-Disaster – Risk Assessment and Analysis, Risk Mapping, zonation and Microzonation, Prevention and Mitigation of Disasters, Early Warning System; Preparedness, Capacity Development; Awareness; During Disaster – Evacuation – Disaster Communication – Search and Rescue – Emergency Operation Centre – Incident Command System – Relief and Rehabilitation – Post-disaster – Damage and Needs Assessment, Restoration of Critical Infrastructure – Early Recovery – Reconstruction and Redevelopment; IDNDR, Yokohama Strategy, Hyogo Framework of Action.

Unit - IV: Disaster Management in India (05 Periods, 19%)

Topics: Disaster Profile of India – Mega Disasters of India and Lessons Learnt; Disaster Management Act 2005 – Institutional and Financial Mechanism, National Policy on Disaster Management, National Guidelines and Plans on Disaster Management; Role of Government (local, state and national), Non-Government and Inter Governmental Agencies.

Unit - V: Applications of Science and Technology for Disaster Management (08 Periods, 24%)

Topics: Geo-informatics in Disaster Management (RS, GIS, GPS and RS); Disaster Communication System (Early Warning and Its Dissemination); Land Use Planning and Development Regulations, Disaster Safe Designs and Constructions, Structural and Non-Structural Mitigation of Disasters; S&T Institutions for Disaster Management in India.

Reference Books (as listed in the syllabus)

- Publications of National Disaster Management Authority (NDMA) on Various Templates and Guidelines for Disaster Management
- Bhandani, R. K., An overview on natural & man-made disasters and their reduction, CSIR, New Delhi
- Srivastava, H. N., and Gupta G. D., Management of Natural Disasters in developing countries, Daya Publishers, Delhi
- Alexander, David, Natural Disasters, Kluwer Academic London
- Ghosh, G. K., Disaster Management, A P H Publishing Corporation
- Murthy, D. B. N., Disaster Management: Text & Case Studies, Deep & Deep Pvt. Ltd.

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