

**OPEN ELECTIVES (Offered by Botany department for the students of other departments)**

**CO-6610      OET -I: DISASTER MANAGEMENT      4 hrs/ week/ 4 Credits/ 50 hrs**

**UNIT- I      10 Hrs**

Introduction to Disasters: Concepts, and definitions of Disaster, Hazard, Vulnerability, Resilience, Risks.

**UNIT- II      10 Hrs**

Disasters: Classification, natural hazards and Man-made disasters, Causes, Impacts (including social, economic, political, environmental, health, psychosocial, etc.) Global trends in disasters, urban disasters and climatic change.

**UNIT- III      10 Hrs**

Approaches to Disaster Risk reduction: Disaster management cycle - Phases, Culture of safety, prevention, mitigation and preparedness community based DRR, Role of NDMA, NDRF, NIDM, STATE DM in disaster Management.

**UNIT - IV      10 Hrs**

Disasters and Development: Impact of Development projects such as dams, embankments, changes in Land-use etc, Climate Change. Relevance of indigenous knowledge and local resources

**UNIT - V      10 Hrs**

Disaster Risk Management in India: Hazard and Vulnerability profile of India, Components of Disaster Relief: Water, Food, Sanitation, Shelter, Health, Waste Management Institutional arrangements (Mitigation, Response and Preparedness, DM Act and Policy).

**Suggested Reading list:**

Alexander David, Introduction in 'Confronting Catastrophe', Oxford University Press, 2000

Andharia J. Vulnerability in Disaster Discourse, JTCDM, Tata Institute of Social Sciences Working Paper no. 8, 2008

Blaikie, P, Cannon T, Davis I, Wisner B 1997. At Risk Natural Hazards, Peoples' Vulnerability and Disasters, Routledge.

Coppola P Damon, 2007. Introduction to International Disaster Management,

Carter, Nick 1991. Disaster Management: A Disaster Manager's Handbook. Asian Development Bank, Manila Philippines.

Cuny, F. 1983. Development and Disasters, Oxford University Press.

Document on World Summit on Sustainable Development 2002.

Govt. of India: Disaster Management Act 2005, Government of India, New Delhi.

Government of India, 2009. National Disaster Management Policy,

Gupta Anil K, Sreeja S. Nair. 2011 Environmental Knowledge for Disaster Risk Management, NIDM, New Delhi

Indian Journal of Social Work 2002. Special Issue on Psychosocial Aspects of Disasters, Volume 63, Issue 2, April.

Kapur, Anu & others, 2005: Disasters in India Studies of grim reality, Rawat Publishers, Jaipur

Kapur Anu 2010: Vulnerable India: A Geographical Study of Disasters, IAS and Sage Publishers, New Delhi.

Parasuraman S, Acharya Niru 2000. Analysing forms of vulnerability in a disaster, The Indian Journal of Social Work, vol 61, issue 4, October

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**CO-7610 OET -II: ENVIRONMENTAL AWARENESS 4 hrs/ week/ 4 Credits/ 50 hrs**

**UNIT- I**

**10 Hours**

1. Multidisciplinary nature of environmental studies, Definition, scope and importance, Need for public awareness.

**UNIT- II**

**10 Hours**

2. Renewable and non-renewable resources: Natural resources and associated problems. a) Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people. b) Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems. c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies. d) Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources. Case studies. f) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.

- Role of an individual in conservation of natural resources.

**UNIT- III**

**10 Hours**

3. Concept of an ecosystem, Structure and function of an ecosystem, Producers, consumers and decomposers. 4. Energy flow in the ecosystem. 5. Ecological succession. 6. Food chains, food webs and ecological pyramids. 7. Introduction, types, characteristic features, structure and function of the following ecosystem:- a. Forest ecosystem, b. Grassland ecosystem, c. Desert ecosystem, d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

**UNIT- IV**

**10 Hours**

8. Social Issues and the Environment 9. From Unsustainable to Sustainable development 10. Urban problems related to energy 11. Water conservation, rain water harvesting, watershed management 12. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies. 13. Environment Protection Act, Air (Prevention and Control of Pollution) Act, Water (Prevention and control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act, Public awareness.

**UNIT- V**

**10 Hours**

14. Human Population and the Environment, Environment and human health, Human Rights, Value Education, HIV/ AIDS, Women and Child Welfare, Role of Information Technology in Environment and human health, Case Studies.