

SEMESTER – II

PAPER – 2.5

Environmental Studies - II

Full Marks : 50

Unit 5: Natural Resources : Renewable and Non-renewable Resources (6 lectures)

- A. Land resources and land use change; Land degradation, soil erosion and desertification.
- B. Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations.
- C. Disaster management : floods, earthquake, cyclones and landslides. Resettlement and rehabilitation of project affected persons; case studies.

Water : Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state).

- D. Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs, case studies.

Unit 6: Environmental Management: Laws, Policies & Practices (7 lectures)

UN Initiatives and International agreements: Montreal and Kyoto protocols, Paris Climate Summit (2015) and Convention on Biological Diversity (CBD).

Environmental ethics: Role of Indian and other religions and cultures in environmental conservation. Green Politics, Earth Hour, Green Option Technologies, ISO standards: ISO 9000 and 14000. Environmental communication and public awareness, Role of National Green Tribunal; EIA Formulations, stages, Merits and demerits: case studies (e.g., CNG vehicles, Bharat IV stage)

Environment Laws: Environment Protection Act (1986); Air (Prevention & Control of Pollution) Act (1981); Forest Conservation Act (1980); Water (Prevention and control of Pollution) Act (1974); Wildlife Protection Act (1972).

Unit 7: Human Population and the Environment (2 lectures)

Human population growth: Impacts on environment, human health and welfare. Family Welfare Programs, Human Rights.

Environmental movements: Chipko, Silent valley, Bishnoi, Narmada Bachao Andolan, Nava Danya.

Role of Information Technology (IT) in environment and Human Health

Unit 8 : Field work (Equal to 5 lectures)

Visit to an area to document environmental assets: river/ forest/ flora/fauna, etc.

Visit to a local polluted site-Urban/Rural/Industrial/Agricultural.

Study of common plants, insects, birds and basic principles of identification.

Study of simple ecosystems-pond, river, Delhi Ridge, etc.

Text Books:

1. Basu, M. and Xavier, S., Fundamentals of Environmental Studies, Cambridge University Press, 2016.
2. Mitra, A. K and Chakraborty, R., Introduction to Environmental Studies, Book Syndicate, 2016.
3. Enger, E. and Smith, B., Environmental Science: A Study of Interrelationships, Publisher: McGraw-Hill Higher Education; 12th edition, 2010.
4. Basu, R.N, Environment, University of Calcutta, 2000.

Suggested Readings:

1. Gleeson, B. and Low, N. (eds.) 1999. *Global Ethics and Environment*, London, Routledge.
2. Gleick, P. H. 1993. *Water in Crisis*. Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press.
3. Grumbine, R. Edward, and Pandit, M.K. 2013. Threats from India's Himalaya dams. *Science*, 339: 36-37.
4. McCully, P. 1996. *Rivers no more: the environmental effects of dams* (pp. 29-64). Zed Books.

5. McNeill, John R. 2000. *Something New Under the Sun: An Environmental History of the Twentieth Century*.
6. Rosencranz, A., Divan, S., & Noble, M. L. 2001. *Environmental law and policy in India*. Tripathi 1992.
7. World Commission on Environment and Development. 1987. *Our Common Future*. Oxford University Press.
8. Ghosh Roy, MK, Sustainable Development (Environment, Energy and Water Resources), Ane Books Pvt. Ltd., 2011.
9. Karpagam, M and GeethaJaikumar, Green Management, Theory and Applications, Ane Books Pvt. Ltd., 2010.
10. BalaKrishnamoorthy, Environmental Management, PHI learning PVT Ltd, 2012.