

ENVIRONMENTAL SCIENCE

1. Definition and scope, basic components of environment : atmosphere and hydrosphere.
2. The living component of environment, the biosphere, ecosystem structure and function, impact of biosphere on environment.
3. Pollution, major categories of environmental pollution, air pollution particulate matter, the green house effect, problem of ozone depletion, acid rain.
4. Land and water pollution, bio-accumulation and bio-magnification of pollutants. Eutrophication, treatment of biodegradable wastes. Noise pollution.
5. Wildlife and its management, biodiversity, remote sensing, environment problems of North-East.
6. **Ecosystem** : Forest, grassland and wetland management, watershed approach to management of hills slopes, agricultural systems management etc.
7. **Biodiversity management** : Biodiversity and its implication of environmental health. Environmental indicators. Protected Area networking, biofertilizers and its application in environmental health.
8. **Waste management** : Waste recycling, renewable and non-renewable energy sources, bio-energy, environmental implications of biomass energy and Wasteland management.
9. **Disaster management** : Environmental degradation and pollution management, impacts and mitigation of natural disasters.
10. **Environment policies and law** : Environmental legislation, public strategies in pollution control, Wildlife Protection Act, 1972, as amended 1991, Forest Conservation Act, 1980. Indian Forest Act, 1982 (revised). Air (prevention and control of pollution) Act, 1974. Water (prevention and control of pollution) CESS Act, 1977, the Environment (Protection) Act, 1986 Wetland policy and Law, Biotechnology and its legal implications, biodiversity convention, Kyoto Protocol, Bio-safety Bill.

11. Environmental Techniques : Environmental Impact Assessment (EIA) and Risk Assessment (RA), natural resource and environmental accounting, pollution prevention methodologies including national and international standards, application of remote sensing (RS) and geographic information systems (GIS) in natural resources management and environmental monitoring.

12. Environmental degradation and sustainable development : Biodiversity and natural resources conservation, restoration of degraded landscapes, role of foresters in maintaining ecological balance, environment and human welfare, institutional and public constraints and socio-economic implications of environmental degradation.

13. Environmental engineering

13. 1. Solid wastes, classification and characteristics, principle of solid waste management, collection handling and disposal of solid wastes.

13. 2. Air pollution and its control, air pollutant, their standards, methods and equipments for control of air pollutant, environmental impact assessment, introduction, principles and methods of EIA, environmental legislation.
