

## **IMB 301 ENVIRONMENTAL STUDIES**

- 1. Introduction:** Definition, scope and importance, Need for public awareness. Natural resources and associated problems, Forest resources: Use and over-exploitation, deforestation, Timber extraction, mining, dams and their effects on forests and tribal people. Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dam's benefits and problems. Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources, Energy Resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, Land Resources: Land as a resource, land degradation, man induces land slides, soil erosion, and desertification.
- 2. Eco Systems :**Concept, Structure and function of an eco system, Producers, consumers, Energy flow in the eco systems, Ecological succession, Food chains, food webs and ecological pyramids, Forest ecosystem, Grass land ecosystem, Desert ecosystem, Aquatic eco systems (ponds, streams, lakes, rivers, oceans, estuaries)
- 3. Biodiversity and its Conservation;** Introduction-Definition: genetics, species and ecosystem diversity, Biogeographically classification of India, Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values, Threats to biodiversity: habitats loss, poaching of wild life, man wildlife conflicts, Conservation of biodiversity: in-situ and ex-situ conservation of biodiversity.
- 4. Environmental Pollution:** Definition Causes, effects and control measures of air, water, soil, marine, noise, thermal and nuclear pollution. Solid waste Management: Causes, effects and control measures of urban and industrial wastes; Role of an individual in prevention of pollution. Overview of Environment Protection Acts: Air, Water, Wildlife and Forest and Issues in enforcement of environmental legislations, public awareness.
- 5. Other issues and the Environment:** Disaster Management: Floods, earth quake, cyclone and landslides; Environment and human health, Role of information technology in environment and human health, from unsustainable to sustainable development, Water conservation, rain water harvesting, water shed management, Environmental ethics: issues and possible solutions, Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust.
- 6. Field work:** Visit to a local area to document environment assets, river / forest / grassland / hill / mountain. Visit to a local polluted site-urban/rural/industrial/agricultural. Study of common plants, insects, birds. Study of simple ecosystems-pond, river, hills lopes, etc

### **Recommended Books:**

1. Environmental Studies; H.D. Kumar & U.N. Dash , India Tech Publishing Company Limited
2. Environmental Studies, Basak, Pearson
3. Fundamental concepts in Environmental Studies, D D Mishra, S Chand & Co Ltd
4. N.K. Oberoi : Environmental Management, Excel Books
5. G.N. Pandey : Environmental Management, Vikas
6. K.M. Agrawal & P.K. Sikdar: Text Book of Environment, McMillan