



**Syllabus for**

**Ability Enhancement Compulsory Course (AECC – Environment Studies)(2 credit) for under graduate(For All Faculties - Second Year - Semester III)**

**It is as per UGC guidelines and**

**framing -Unit 1 : Introduction to environmental studies**

- Multidisciplinary nature of environmental studies;
- Scope and importance; Concept of sustainability and sustainable development.

(2 lectures)

**Unit 2 : Ecosystems**

- What is an ecosystem? Structure and function of ecosystem ; Energy flow in an ecosystem : food chains, food webs and ecological succession. Case studies of the following ecosystems :

- a) Forest ecosystem
- b) Grassland ecosystem
- c) Desert ecosystem
- d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

(8 lectures)

**Unit 3 : Natural Resources : Renewable and Non-renewable Resources**

- Land resources and land use change; Land degradation, soil erosion and desertification.
- Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations.
- Water : Use and over-exploitation of surface and ground water, floods, droughts conflicts over water (international & inter-state).
- Energy resources : Renewable and non renewable energy sources, use of alternate energy sources, growing energy needs, case studies.

(10 lectures)

**Unit 4 : Biodiversity and Conservation**

- Levels of biological diversity : genetic, species and ecosystem diversity; Biogeographic zones of India; Biodiversity patterns and global biodiversity hot spots
- India as a mega-biodiversity nation; Endangered and endemic species of India
- Threats to biodiversity : Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity : In-situ and Ex-situ conservation of biodiversity.
- Ecosystem and biodiversity services : Ecological, economic, social, ethical, aesthetic and Informational value.

(10 lectures)

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