

AECC-1: ENVIRONMENTAL STUDIES

UNIT 1: Introduction

7 hours

- 1.1: Environmental Studies – Importance and scope, multidisciplinary nature; Concept of sustainability and sustainable development
- 1.2: Ecosystems –Concept, structure and function; Pond ecosystem, Forest ecosystem; Food chains, Food webs; Concept of ecological succession
- 1.3: Bio-geographical zones of India; Levels of biological diversity- Genetic, Species and ecosystem; Biodiversity Hotspots with special reference to India; Threats to biodiversity
- 1.4: Conservation of biodiversity: In-situ and Ex-situ; Endangered and endemic species – Concept; Afforestation – Social forestry, Agroforestry, Green belt

UNIT 2: Environmental pollution and its management

7 hours

- 2.1: Air pollution, water pollution, noise pollution, - Causes, effect and control measures.
- 2.2: Climate change, global warming, ozone layer depletion, acid rain and its impact on human communities and agriculture
- 2.3: Solid waste management - biodegradable and non-biodegradable waste; Segregation of domestic waste at source
- 2.4: Impact of plastic on human and animal health

UNIT 3: Natural resources and management

7 hours

- 3.1: Land resources and land-use changes; Land degradation, soil erosion and desertification
- 3.2: Water: Use and over-exploitation of surface and groundwater; Water conservation - rainwater harvesting; Watershed management – Meaning and importance
- 3.3: Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources
- 3.4: Disaster management– Definition and types (Natural and Man-made); Self-protection during disasters (Fire, Floods, Earthquakes, landslides)

UNIT 4: Environmental Policies and Practices

7 hours

- 4.1: Human population growth: Impact on environment, human health and welfare; Environmental ethics– Role of religion and cultures
- 4.2: Environment movements – Chipko, Narmada Bachao Andolan, Silent valley, Bishnois of Rajasthan
- 4.3: Individual and community initiatives – *Salu Marada Thimmakka*; Concept of Sacred Groves (*Devarakadu*)
- 4.4: Environment Protection Act; Biodiversity Act (2002); National Environmental Policy, 2006 – Provisions and importance; Environmental Impact Assessment – Concept; *Swachh Bharat Mission*– Objectives; International agreements – Montreal and Kyoto protocols