ENVIRONMENT AND ECOLOGY

Discipline Specific Core Course

DSC: Semester V

Guidelines

Unit-I (8 Hours)

Introduction: Concept of Environment, Ecology and Ecosystem; Types of Ecology; Concepts of Ecosystem Services; Ecological and Material Footprint; Global Planetary Boundaries.

Guidelines:

1. Concept of Environment, Ecology and Ecosystem (Short notes)

2. Types of Ecology (Long question)

3. Concepts of Ecosystem Services (Long question)

4. Ecological and Material Footprint (Long question)

5. Global Planetary Boundaries (Long question)

Unit-II (8 Hours)

Ecology and Ecosystem: Species Interactions; Ecological Limiting Factors; Ecosystem: Structure and Functions; Human Adaptation

Guidelines:

1. Species Interactions: Concept and types
2. Ecological Limiting Factors: Concept and Types
3. Ecosystem Structure: Components and types
4. Ecosystem Functions- concept of Energy Flow and Biogeochemical cycles (introduce major cycles briefly (Carbon, Nitrogen, Phosphorous, Sulphur and hydrological.

   Note: Specific question on any individual cycles should not be asked.

5. Human Adaptation: Human adaptation in different ecosystems. (Note: No separate question on any specific ecosystem)

Unit-III (11 Hours)

Global Environmental Challenges and Management: Climate Change, Biodiversity loss, Land degradation and Human health issues

Guidelines:

1. Global Environmental Challenges and Management: Concept (Only short Note)
2. Concept, Impacts and Management: Climate Change, Biodiversity loss, Land degradation.
3. Human health issues: Environmental problems and human health

Unit-IV (11Hours)

Regional Ecological Issues and Management: Coastal and Marine Ecology: Loss of mangroves and corals, Garbage Patches; Urban Ecology: Waste disposal and Pollution

Guidelines:

1. Regional Ecological Issues: Concept (Only short Note)
2. Issues and Management of Coastal and Marine Ecology: Loss of mangroves and corals, Garbage Patches (at least one region specific case study for each of the above-mentioned issues)
3. Issues and Management of Urban Ecology: Waste disposal and Pollution (At least one case study for each issue from Global South)

Unit-V (7 Hours)

Environmental Programmes and Policies: Environmental Impact Assessment; Global and National Environment Policy of India

Guidelines:

1. Environmental Impact Assessment: Concept, process and significance
2. Global conventions (United Nations)
3. National Environment Policy of India 2006 and subsequent amendments
   (No separate question on any ammenments).

The online meeting was held on August 28, 2024 at 6 pm to frame the guidelines for teaching the DSC course Environment and Ecology. Following members attended the meeting:

Prof. Seema Parihar (KMC), Prof. Poonam Sharma (SBSC), Prof. Rakhi Parijat (MH), Prof. Anupama Hasija (SBSCE), Dr. Anju Singh (AM), Dr. Anjana Jagmohan(DSC), Dr. Preeti Sachhar(SSNC), Dr. Shipra Singh(MH), Dr. Sheetal Sharma(AM), Dr. Geeta(KC), Dr. Usha Pathak(KC), Dr. Arif Hussain(SPM) and Dr. Ankur Srivastav(SPM) .