

Courses Taught to Students Regarding Environmental Sustainability, Protection and Ethics

PGENS17O909: Solid Waste Issues

(02 Credits)

Credit I: Municipal Solid waste

- 1.1 Concept of waste & municipal solid waste
- 1.2 Sources and generation of municipal solid waste
- 1.3 Composition of municipal solid waste
- 1.4 Occupational hazards associated with waste handling

Credit II: Solid waste management

- 2.1 Collection, transportation and storage of solid waste
- 2.2 Processing and segregation of solid waste
- 2.3 Waste minimization techniques
- 2.4 Solid waste disposal methods

IGENS17O710: Development and Environmental Sustainability

(02 Credits)

Unit I: Sustainability and development

- 1.1. Sustainable development-Definition and Concept
- 1.2. Challenges and issues of sustainability
- 1.3. Measuring Sustainability-Environmental, Social and Economic principles
- 1.4. Design for Environment-concept
- 1.5. Role of international agencies/institutions in sustainable development

Unit II: Priority areas in Sustainable development

- 2.1. Biodiversity conservation and management
- 2.2. Sustainable energy policies and resources
- 2.3. Water resource conservation
- 2.4. Sustainable agriculture and land use
- 2.5. Human health and climate change initiatives

Credit I: Environmental issues- I

1. Greenhouse effect - sources of Greenhouse gases, Global warming- consequences and remedial measures
2. Global climate change
3. Acid rain
4. Photochemical smog
5. Ozone depletion-sources and consequences; Conventions and protocols

Credit II: Environmental issues- II

1. Water crisis and international conflicts on water sharing between India and her neighbors
2. Conflicts surrounding forest areas
3. Global biodiversity loss
4. Urbanization and urban sprawl
5. GMO's and food security

Credit III: Environmental Pollution- I

1. Air pollution: causes, consequences and control
2. Indoor air pollution
3. Surface Water pollution: causes, consequences and control
4. Ground Water pollution: causes, consequences and control
5. Marine pollution

Credit IV: Environmental Pollution- II

1. Noise Pollution- consequences and control, Basic physics of sound
2. Soil Pollution: causes, consequences and control
3. Thermal pollution
4. Radioactive pollution
5. Solid waste pollution

Credit V & VI: Laboratory Course

1. Estimation of Na and K from given water sample by flame photometry
2. Estimation of sulphate and phosphates from given water sample
3. Determination of water holding capacity of soil. Estimation of PM in air
4. To determine soil salinity and alkalinity
5. A visit to a cement industry/ brick kiln

Credit-I: Environmentalism

- 1.1 Environmentalism: Concept and history
- 1.2 Environmental organizations (WWF, UNEP, IUCN, WHO)
- 1.3 Environmental movements in India: Narmada, Tehri, Almatti and Chipko
- 1.4 The monetization frontier
- 1.5 Environmental politics

Credit-II: Environmental Education

- 2.1 Environmental education: concept
- 2.2 Principles of environmental education
- 2.3 Environmental protection and religious teachings
- 2.4 Environmental awareness: concept and attributes
- 2.5 Public awareness and role of NGOs

Credit-III: Environmental Ethics

- 3.1 Environmental ethics: introduction and overview
- 3.2 Environmental philosophies: biocentrism and ecocentrism
- 3.3 Deep Ecology and conservationism
- 3.4 Ecofeminism and Environmental pragmatism
- 3.5 Ethics of climate change

Credit-IV: Environmental Sustainability

- 4.1 Sustainability: Definition and concepts
- 4.2 Challenges of sustainability
- 4.3 Measuring sustainability: environmental, social, economic principles
- 4.4 Sustainability and decision making
- 4.5 Design for Environment: concept

Credits V and VI: (Lab / Tutorials)

- 1. Preparation of various types of chart/poster for environmental awareness.
- 2. Writing a letter to editor of a newspaper highlighting environmental problems
- 3. Preparation of an article on an environmental issue for publication in news paper
- 4. Making of a short film on an environmental issue for awareness among people
- 5. Organisation of a community meeting for highlighting and discussing environmental issues
- 6. Measurement of sustainability – basic methods
- 7. Gathering of environmentally relevant data from Government and Non-Government organisation