| Course Code | **EEC 5006** | Semester | **III** |
|---|---|---|---|
| Course Title | **ENVIRONMENTAL ECONOMICS** | | |
| Credits | **4** | Type | **Elective** |

**Course Description**

Aim of the course is to make the students enable to understand the role of economics to solve environmental issues, estimate the monetary value of environment resources and services and necessity of balance between economic growth and environmental quality.

**Course Outcome**

By the end of the course, students are expected to be able to:

- Inter-linkages between and economy and environment
- Identify and analyse the environmental issues and related theories
- Applications of economic valuation and environmental resources
- Issues of sustainable development and policies

**Course Structure**

Module 1: Economic System and Environmental System

Economic System and Environmental System: Inter-linkages - Material Balance Model. Types of Pollution: Cumulative and non- cumulative - Local, régional and global - Point source and non-point source. Welfare Effects of Pollution: Air Pollution (acid rain, ozone depletion, global warming) - Water Pollution - Municipal Solid Waste - Bio-Medical Waste.

Module 2: Market Failure, Government Failure and the Environment

Market: Conditions for efficient functioning of markets - Market failure - Environmental damage as an externality - Environmental goods as public goods - Asymmetric information and environmental damage - Adverse selection - Moral hazard - Property rights and environmental damage (coase theorem) - “Government failure” and Environmental damage. Pollution Control Policies: Command-and-control policy - Market based instruments (pollution taxes, tradable permits and subsidies).

Module 3: Economic Valuation of Environmental Resources

Cost-Benefit Analysis - Types of environmental value and need for environmental valuation. Methods of Environmental Valuation: Revealed preference methods - Hedonic pricing method - TCM - Stated preference approach - CVM.

Module 4: Renewable, Non-Renewable and Common Property Resources

Types of natural resources and Mckelvey classification - Measuring Resources Scarcity: Resource lifetime - Unit cost measures - Real prices - Economic rent. Allocation of Non-Renewable Resources: The Hotelling theorem. Renewable Resources: Forests (Frontier and Immiserisation Models of Deforestation) - Consequences of deforestation - Fisheries (“Efficient Sustainable Yield”) - Water

(Efficient Allocation of Surface and Ground Water). Common Property Resources: Characteristics - Tragedy of the Commons - Ostrom's principles for sustainable local CPR governance.

Module 5: Economic Growth and Sustainable Development

Economic Growth and Environment: The environmental Kuznet curve - The "Limits to Growth" Club of Rome model. Economics of Sustainable Development: Definition - Weak and strong sustainable development - Sustainability rules (Hartwick Rule) - Safe minimum standard - Measuring the sustainable development (Green National Accounting) - Link between poverty and environmental degradation - Economics of climate change.

**Testing & Evaluation**

Internal Evaluation consisting of Seminar, Assignment and final end semester examination.

**References**

Required Text Books:


- Hanley, Nick, J.F. Shogren, and Ben White. (2001). Introduction to Environmental Economics (2nd Edition). Oxford University Press, Oxford, UK.
- Karpagam M. (1998). Environmental Economics (1st Edition). Sterling Publishers, New Delhi, India.
- Hanley, Nick, J.F. Shogren, and Ben White. (1997). Environmental Economics: In Theory and Practice (1st Edition). Macmillan Publishers, Chennai, India.
- Kolstad, Charles D. (2010). Environmental Economics (2nd Edition). Oxford University Press, Oxford, UK.


Additional References


- Sankar U. (2001). Environmental Economics. Oxford University Press, New Delhi, India.
- Gopal K. Kadekodi. (2004). Environmental Economics in Practice: Case Studies in India. Oxford University Press, Oxford, UK.
- Field, Barry C. (2001). Natural Resource Economics: An Introduction. Tata McGraw Hill, London.