

Course overview of ENVS

The Environmental Studies course is a vast field that encompasses many fields. It integrates various sciences and technologies to get an understanding of environment-related issues. The Environmental Studies Course covers topics such as human activity and environmental sustainability, societal development and its effect on environment, sustainable development in agriculture, global and national energy consumption scenario, energy conservation strategies, effect ecology, biodiversity, pollution control, climate change, sustainable resource management, Environmental law and managements. Environmental Studies provides an overview of how science affects our environment. Study in this subject focus on interactions between the air water and soil with living organisms. Environmental Studies is a challenging field that deals with the study of natural and human-induced changes in the environment. The course will not only help expand knowledge of students on natural processes, but it will also make students more aware of our role on the environment. Studies in environmental studies will help students to make better decisions for sustainable living and environmental protection.

Course outcome of ENVS

At the end of the course, students will be able to

1. Understand Environmental Issues. The Environmental Studies course provides a comprehensive understanding of ecology, biodiversity, pollution control, climate change, environmental laws and environmental management issues, including the challenges it faces.
2. Build Career in Environmental Studies and associated sectors. There is a growing demand for professionals with expertise in the Environmental Science course and sustainability.
3. Peruse Research career in environmental studies. The Environmental Studies course often includes research components, allowing students to engage in meaningful research projects that contribute to scientific knowledge and address real-world environmental problems.
4. Apply proficiency in analytical methods, critical thinking, communication, and leadership skills sufficient to make a contribution in environmental and related fields.
5. Students will learn to reflect critically their role and identity as citizen, consumer in this complex interconnected world

CLASS - XI

SUBJECT : ENVIRONMENTAL STUDIES (ENVS)

SEMESTER – I

FULL MARKS : 40

CONTACT HOURS : 100 Hours

COURSE CODE : THEORY

Chapter	Subtopics	Contact Hours	Marks
1. Man, Environment and Sustainability	1.1. Introduction 1.2. Dimensions of Environment-Physical, Biological & Social 1.3. Human Being as a Rational and Social Partner in Environmental Actions, Green Revolution: Impact of Human Activities on the Environment 1.4. Society and Environment in India: Indian Traditions, Customs and Culture-Past and Present 1.5. Population and Environment 1.6. Impact of Human Activities on the Environment 1.7. Concept of Sustainability 1.8. Conclusion 1.9. Exercise	30	20
2. Environment and Development	2.1. Introduction 2.2. Social factors Affecting Development- Education, Employment, Child Marriage and child Labour, Health, Social Security, Cultural and ethical values. 2.3. Impact of Development on Environment –Changing Pattern of Land 2.4. Use, Land Reclamation, Deforestation, Resource Depletion, Pollution and Environmental Degradation 2.5. Global Development Scenario-Some Facts: Ramsar Convention (1971); Stockholm Conference 1972; United Nations Conference on Environment and Development 1992; Rio de Janeiro (Rio Declaration, Agenda 21, Convention on Biodiversity); Montreal Protocol 1987; Basel Convention (1989, 1992); UNFCCC, Kyoto Protocol, 1997, Copenhagen and Paris summits; World Summit at Johannesburg, 2002, IPCC, UNEP. 2.6. Role of the Society in Development and Environment-Public Awareness Through Education, Eco-clubs, Population Education Programme, Campaigns, Public Participation in Development 2.7. Exercise	70	20

CLASS - XI

SUBJECT : ENVIRONMENTAL STUDIES (ENVS)

SEMESTER – II

FULL MARKS : 40

CONTACT HOURS : 80 HOURS

COURSE CODE : THEORY

Chapter	Subtopics	Contact Hours	Marks
3. Sustainable development and agriculture	3.1. Introduction 3.2. Concept of Environment and Sustainable Development 3.3. Concept of Sustainable Consumption 3.4. Need of Sustainable Development for Improving Quality of Life for the Present and Future 3.5. Concept of Sustainable Agriculture: Element, Need, Action Plan 3.6. Importance of Soil for Crops 3.7. Irrigation Systems: Old and Modern System 3.8. Use of Manure and Fertilizers: Chemical and biofertilizers 3.9. Crop Protection –Type of Pests and Pesticides, Control-Measures, Agrochemicals, and their impact on the environment 3.10. Exercise	40	20
4. Energy	4.1. Introduction 4.2. Changing Global Pattern of Energy Consumption 4.3. Energy Consumption as a Measure of Quality of Lifestyle 4.4. Energy Scenario in India 4.5. Energy Sources 4.6. Fossil fuel Harnessing and Environmental Consequences 4.7. Energy Conservation- Efficient Production and Efficient Uses 4.8. Planning & Management of Energy 4.9. Exercise	40	20

CLASS - XII

SUBJECT : ENVIRONMENTAL STUDIES (ENVS)

SEMESTER – III

FULL MARKS : 40

CONTACT HOURS : 100 Hours

COURSE CODE : THEORY

Chapter	Subtopics	Contact Hours	Marks
5. Principles of ecology	5.1. Basic concepts and definitions : ecology, landscape, habitat, ecological niche, ecozones, biosphere, ecosystem, ecosystem stability, biome. 5.2. Autecology; synecology; major terrestrial biomes. 5.3. Types of ecosystems : forest, grassland, lentic,lotic, estuarine, marine, desert, wetlands 5.4. Ecosystem structure : biotic and abiotic components and their role in ecosystem 5.5. Ecosystem connections with characteristics and significance : food chain, food web, energy flow, The 10 percent law by Lindemann, ecological efficiency, ecological pyramids : Pyramids of number, biomass, and energy 5.6. Biogeochemical Cycles : O ₂ , C, N ₂ . Exercise	50	20
6. Biodiversity	6.1. Concept of Biodiversity 6.2. Importance of Biodiversity 6.3. Levels of Biodiversity (Genetic, Species and Ecosystem, Domestic) 6.4. Loss of Biodiversity (Causes and effects) 6.5. Balance in Nature 6.6. India as Mega diverse Country 6.7. Common Plants and Animals of India 6.8. Economic Importance 6.9. Wildlife in Trade (Legal, Illegal, Challenges and Solutions) 6.10. Strategies and needs of Conservation — in-situ, ex-situ, red data book, IUCN categories Exercise	50	20

SUBJECT : ENVIRONMENTAL STUDIES (ENVS)**SEMESTER – IV****FULL MARKS : 40****CONTACT HOURS : 80 HOURS****COURSE CODE : THEORY**

Chapter	Subtopics	Contact Hours	Marks
7. Environmental pollution and pollution control	7.1. Concepts and Types of Pollution. 7.2. Air Pollution : Source, impact, control measures; Ozone Layer Depletion and its Effects, Green House Effects and Global Warming; Ambient Air Quality Standards 7.3. Water Pollution : Source, impact, control measures; Water Quality Parameters and Standards 7.4. Soil Pollution: Source, impact, control measures; Soil quality indicators 7.5. Noise Pollution: Source, impact, control measures; Noise level parameters 7.6. Radiation Pollution : Source, impact, control measures 7.7. Pollution related Diseases 7.8. Disaster – Natural & Man-Made 7.9. Strategies for Pollution Abatement and Environmental Quality Improvement 7.10. Clean Development Mechanism (CDM) 7.11. Regulatory framework for pollution monitoring and control; case study: Ganga Action Plan; Yamuna Action Plan Exercise	45	20
8. Environmental law and management	8.1. Concept of Environmental Management: Need, Aspect, Approaches (Social, Economic and Moral) 8.2. Waste Management: Solid, Liquid, Biomedical and Hazardous 8.3. 4R Management 8.4. Legal Provisions for Environmental Management: The Indian Forest Act 1927; The Wildlife (Protection) Act 1972; The Water (Prevention and Control of Pollution) Act 1974; The Water (Prevention and Control of Pollution) Cess Act 1977; The Forests (Conservation) Act 1980; The Air (Prevention and Control of Pollution) Act 1981; The Environment (Protection) Act 1986; Motor Vehicle Act 1988; The Public Liability Insurance Act 1991; Noise Pollution (Regulation and Control) Rules 2000; The Biological Diversity Act 2002 8.5. Approaches for Environmental Management Exercise	35	20

CLASS: XI

SUBJECT : ENVIRONMENTAL STUDIES (ENVS)

COURSE CODE : PROJECT

FULL MARKS : 20

CONTACT HOURS : 20 HOURS

Chapter	Subtopics	Marks	Hours
Home Assignment	PROJECT- I – Application of Biofertilizer in Agriculture – Eco-friendly unconventional source of Energy – Plantation Programme in your locality – Social Issues (Child Labour/Child Marriage/Child Education, etc.) in your locality	Project : 15	10
		VIVA : 5	
Tutorial Remedial		Project based	5 5

CLASS : XII

SUBJECT : ENVIRONMENTAL STUDIES (ENVS)

COURSE CODE : PROJECT

FULL MARKS : 20

CONTACT HOURS : 20 HOURS

Chapter	Subtopics	Marks	Hours
Home Assignment	PROJECT II – Rainwater Harvesting – Waste Management System in (Municipality/Panchayat) your locality – Study of Biodiversity in your locality – Water/Air/ Noise Pollution in your locality	PROJECT : 15	10
		VIVA : 5	
Tutorial Remedial		Project based	5 5