



Course Title: Environmental Studies

Course Code: EVS101

Credit Units: 04

L	T	P/ S	SW/F W	TOTAL CREDIT UNITS
4	-	-	-	4

Course Objectives: The goal of this course is to provide students basic knowledge of environment and their role in life sustenance. The students can identify and analyze environmental problems as well as the risks associated with them.

Pre-requisites: Basic concepts of environmental study are essential

Course Contents/Syllabus:

	Weightage (%)
Module I : Multidisciplinary Nature of Environmental Studies	10
Descriptors/Topics Introduction, definition and importance of environmental studies, need for public awareness, sensitisation and participation	
Module II : Natural Resources	15
Descriptors/Topics 1. Types of natural resources, natural resource conservation, Role of an individual in conservation of natural resources, Equitable use of resources for sustainable lifestyles.	
2. Land resources: Land as a resource, land degradation, man induced landslides, Land resources: soil erosion and desertification.	
3. Natural Resources: Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.	
4. Natural Resources: Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts	

<p>over water, dams-benefits and problems.</p> <ol style="list-style-type: none"> 5. Natural Resources: Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies. 6. Natural Resources: Food resources: World food problems, changes caused by agriculture and overgrazing, Food resources effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. 7. Natural Resources: Energy resources: Growing energy needs, Energy resources renewable and non-renewable energy sources, Energy resources use of alternate energy sources, case studies. 8. Role of individual in conservation of natural resources 9. Equitable use of resources for sustainable lifestyles. 	
<p>Module III: Ecosystems</p>	<p>15</p>
<p>Descriptors/Topics</p> <ol style="list-style-type: none"> 1. Concept of an ecosystem, 2. Types of ecosystem, 3. Structure and function of an ecosystem, Producers, consumers and decomposers. 4. Energy flow in the ecosystem, Food chains, food webs and ecological pyramids. 5. Ecological succession. 6. Introduction, types, characteristic features, structure and function of Forest ecosystem, Grassland ecosystem and Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, ocean estuaries) 	
<p>Module IV : Biodiversity</p>	<p>15</p>
<p>Descriptors/Topics</p> <ol style="list-style-type: none"> 1. Introduction - Definition: genetic, species and ecosystem diversity 2. Biogeographical classification of India 3. Value of biodiversity: consumptive use, productive use, social, ethical aesthetic and option values 4. Biodiversity at global, national and local levels, India as a mega-diversity nation 	

<ol style="list-style-type: none"> 5. Hot-spots of biodiversity, 6. Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts 7. Endangered and endemic species of India 8. Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity 9. Biological Diversity Act, 2002 	
<p>Module V: Environmental Pollution</p>	<p>15</p>
<p>Descriptors/Topics</p> <p>Definition Cause, effects and control measures of :-</p> <ol style="list-style-type: none"> a. Air pollution b. Water pollution c. Soil pollution d. Marine pollution e. Noise pollution f. Thermal pollution g. Nuclear hazards <p>Solid waste Management: Causes, effects and control measures of urban and industrial wastes.</p> <p>Role of an individual in prevention of pollution.</p> <p>Pollution case studies.</p> <p>Disaster management: floods, earthquake, cyclone and landslides.</p>	
<p>Module VI: Social Issues and the Environment</p>	<p>10</p>
<p>Descriptors/Topics</p> <p>From Unsustainable to Sustainable development</p> <p>Urban problems related to energy</p>	

<p>Water conservation, rain water harvesting, watershed management</p> <p>Resettlement and rehabilitation of people; its problems and concerns. Case Studies</p> <p>Environmental ethics : Issues and possible solutions.</p> <p>Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies.</p> <p>Wasteland reclamation.</p> <p>Consumerism and waste products.</p> <p>Environment Protection Act.</p> <p>Air (Prevention and Control of Pollution) Act.</p> <p>Water (Prevention and control of Pollution) Act</p> <p>Wildlife Protection Act</p> <p>Forest Conservation Act</p> <p>Issues involved in enforcement of environmental legislation.</p> <p>Public awareness.</p>	
<p>Module VII: Human Population and the Environment</p>	<p>10</p>
<p>Descriptors/Topics</p> <p>Population growth, variation among nations.</p> <p>Population explosion – Family Welfare Programme.</p> <p>Environment and human health.</p> <p>Human Rights.</p>	

Value Education. HIV/AIDS. Women and Child Welfare. Role of Information Technology in Environment and human health. Case Studies.	
Module VII: Field Work (Practical)	
Descriptors/Topics Visit to a local area to document environmental assets-river/forest/grassland/ hill/mountain. - Visit to a local polluted site-Urban/Rural/Industrial/Agricultural. - Study of common plants, insects, birds. - Study of simple ecosystems-pond, river, hill slopes, etc.	10

Student Learning Outcomes:

Student can **recognize** the environmental problem associated with development

Apply the gained knowledge for the environmental conservation and its sustainability.

Demonstrate an integrative approach to deal with environmental issues with a focus on sustainable environmental management.

Develop an ability to integrate the disciplines related to environmental concerns.

Formulate the critical thinking skills for environmental protection

Pedagogy for Course Delivery: Lecturers, Writing on Board, Power point presentation, discussion of various Case studies and environmental based projects.

Assessment/ Examination Scheme:

Theory L/T (%)	Lab/Practical/Studio (%)	Total (%)
100	NA	100

Theory Assessment (L&T):

	Continuous Assessment/Internal Assessment				End Term Examination
Components (Drop down)	CT	HA	Att.	S/V/Q	EE
Weightage (%)	10	5	5	10	70

Text & References:

1. Asthana and Asthana, A textbook of Environmental Studies.
2. Kaushik and Kaushik, Fundamentals of Environmental Studies.
3. Gauba Dhawan and Bisht Environmental Studies, Challenges & Solutions A quick Compendium.
4. Somvanshi and Dhupper, Fundamentals of Environmental Studies.