

Semester I Environment Studies

OBJECTIVES:

1. To make students aware about the importance, current situation of natural resources and the need to conserve them.
2. To give information about concept, types of various ecosystems.
3. To make aware about biodiversity, and need of conservation.
4. To create awareness about social issues and the solutions to solve them.

Course	TC	Th C	Pr C	Int M	Ext M	Total
Environment Studies	4	4	0	25	75	100

Module No.	Objective	Content	Evaluation
1	This will enable students to: 1. Get acquainted with physical environment and its components 2. Know various natural resources, their importance, over use 3. Develop the concept of sustainable development	<p>The Multidisciplinary Nature of Environmental Studies</p> <ul style="list-style-type: none"> • Definition, Scope and Importance, Need for public awareness <p>Natural Resources</p> <ul style="list-style-type: none"> • Renewable and Non-Renewable Resources • Natural Resources and Associated Problem <p>Forest Resources: Use and Over exploration, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.</p> <p>Water Resources: Use and over utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.</p> <p>Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.</p> <p>Food Resources: World food problems, changes cause by agriculture and over grazing, effects of modern agriculture, fertilizers, pesticide problems, water logging, salinity, case studies.</p> <p>Energy Resources: Growing energy needs, renewable and non-renewable energy sources and use of alternate energy sources, case studies.</p> <p>Land Resources: Land as a resources, land degradation, man induced landslides, soil erosion and desertification</p> <ul style="list-style-type: none"> • Role of individual in conservation of natural resources • Equitable use of resources for sustainable lifestyles <p>Ecosystems Concept of ecosystem</p>	<ul style="list-style-type: none"> • Short Questions/Multiple Choice Questions <p>Assignment or display on ecosystems</p> <p>10 marks</p>

		Structure and function of ecosystem Producers, consumers and decomposers Energy flow in the ecosystem	
2	1. Develop the concept of ecology and its components 2. Study the impact of human activities and ecology and need to conserve the resources	Biodiversity and its Conservation <ul style="list-style-type: none"> ● Introduction-Definition: Genetic, Species and Ecosystem Diversity ● Bio-geographical classification of India ● Value of biodiversity, consumptive use, productive use, social, ethical, aesthetic and option values ● India as a mega-diversity nation ● Hot-spots of biodiversity ● Threats to biodiversity: habitat, loss, poaching of wild life, man wildlife conflicts ● Endangered and endemic species of India ● Conservation of bio-diversity: <i>In-situ</i> and <i>Ex-situ</i> conservation of biodiversity. 	Display/ Assignment 5 marks
3	1. Make the students aware of various types of pollutions and solutions to the problem. 2. Make the students aware of social problems.	Environmental Pollution: <ul style="list-style-type: none"> ● Definition, causes, effects and control measures of - Air, water, soil, marine, noise and thermal pollutions; Nuclear hazards ● Solid Waste Management: causes, effects and control measures of urban and industrial waste ● Role of individual in prevention of pollution ● Pollution case studies ● Disaster Management: Floods, earthquake, cyclone and landslides Social Issues and the Environment: <ul style="list-style-type: none"> ● From unsustainable to sustainable development ● Urban problems related to energy ● Water conservation, rain water harvesting, water shed management ● Resettlement and rehabilitation of people, its problem and concerns. case studies ● Environmental ethics: Issues and possible solutions ● Climate changes, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. case studies ● Waste land reclamation ● Consumerism and waste products ● Environment Protection Act ● Air, Water (Prevention and control of pollution) Act ● Wildlife Protection Act ● Forest Conservation Act ● Issues involved in enforcement of environmental legislation 	Assignment on local problems 5 marks

		<ul style="list-style-type: none"> • Public awareness 	
4	<p>1. Make the students aware of population problems.</p> <p>2. Develop the love and interest about nature by being in nature itself.</p> <p>3. Create awareness about Biodiversity pollution and social issues.</p>	<p>Human Population and the Environment</p> <ul style="list-style-type: none"> • Population growth, variation among nation • Population explosion-family welfare programme • Environment and Human Health • Human Rights • Value Education • HIV/AIDS • Women and child welfare • Role of Information Technology in Environment and Human health • Case studies <p>Visit to local area to document environmental assets</p> <p>a) Rivers/forest/grassland/ hill/ mountain</p> <p>b) Local Pollution Site-Urban/Rural/Industrial/ Agricultural</p> <p>c) Study of common plants/ insects/ birds</p> <p>d) Study of simple ecosystems-ponds, rivers, hill, slopes etc.</p>	Report on the local visit 5 marks

EVALUATION:

- 1) On Four Modules, 1 or 2 assignments = 25 marks
- 2) External - 75 marks
- 3) Total : Internal - 25 + External - 75 = 100 marks

REFERENCES:

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- 2) Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahamadabad-380013, India, Email: mapin@icenet.net(R)
- 3) Brunner R. C. (1989), Hazardous Waste Incineration, McGraw Hill Inc. 480p
- 4) Clark R. S. Marine Pollution, Clarendon Press Oxford (TP)
- 5) Cunningham W. P. Cooper, T. H. Gorhani, E & Hepworth, M. T. (2001), Environmental Encyclopedia, Jaico Publ. House Mumbai, 1196p
- 6) De A. K., Environmental Chemistry, Wiley Eastern Ltd.
- 7) Down to Earth, Center for Science and Environment(R)
- 8) Gleick, H. P. (1993), Water in Crisis, Pacifics Institute for Studies in dev., Environment & Security, Stockholm Env. Institute, Oxford University, Press. 473p