

ENVIRONMENTAL STUDIES				
CLASS T.E. (INFORMATION TECHNOLOGY)				SEMESTER
V				
HOURS PER WEEK	LECTURES	:	02	
	TUTORIALS	:	01	
	PRACTICALS	:	--	
			HOURS	MARKS
EVALUA TION SYSTEM:	THEORY		2	50
	PRACTICAL		--	--
	ORAL		--	--
	TERM WORK		--	25
Mo du le	Contents			Hours
1	The Multidisciplinary nature of environmental studies Definition, scope and importance Need for public awareness			1
2	Natural resources Renewable and non-renewable resources Natural resources & associated problem. <ol style="list-style-type: none"> a. Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people. b. Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams benefits and problems. c. Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies. d. Food resources: World food problems overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. e. Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies. f. Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. <ul style="list-style-type: none"> • Role of an individual in conservation of natural resources. Equitable use of resources for sustainable lifestyles.			4
3	<ul style="list-style-type: none"> • Ecosystems • Concepts of an ecosystem. • Structure and function of an ecosystem. • Producers, consumers and decomposers. • Energy flow in the ecosystem. • Ecological succession. 			3

	<ul style="list-style-type: none"> • Food chains, food webs and ecological pyramids. • Introduction, types, characteristic features, structure and function of the following ecosystem: <ul style="list-style-type: none"> a. Forest ecosystem b. Grassland ecosystem c. Desert ecosystem d. Aquatic ecosystem (ponds, streams, lakes, rivers, oceans, estuaries) 	
4	<p>Biodiversity and its conservation</p> <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 • Bio-diversity at global, national, local levels • India as a mega diversity nation • Hot spots of bio-diversity • Threats to biodiversity: Habitat loss, poaching of wild life, man-wildlife conflicts • Endangered and endemic species of India • Conservation of biodiversity: In- situ and Ex-situ conservation of biodiversity 	4
5	<p>Environmental Pollution Definition –</p> <ul style="list-style-type: none"> • Causes, effects and control measures of: <ul 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 <ul style="list-style-type: none"> • Solid waste management: Causes, effect and control measures of urban and industrial wastes • Role of an individual in prevention of pollution • Pollution case studies • Disaster management: floods, earthquake, cyclone and land slides 	4
6	<p>Social issues and environment</p> <ul style="list-style-type: none"> • From unsustainable to sustainable development • Urban problems related to energy • Water conservation, rain water harvesting, watershed management • Re-settlement and rehabilitation of people: Its problems and concerns. Case studies. • Environmental ethics: issues and possible 	4

	<p>solution</p> <ul style="list-style-type: none"> • Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies. • Wasteland reclamation • Consumerism and waste products • Environment protection act • Air(Prevention and control of pollution) act • Water (Prevention and control of pollution) act • Wildlife protection act • Forest conservation act • Issues involved in enforcement of environmental legislation • Public awareness 	
7	<p>Human population and the environment</p> <ul style="list-style-type: none"> • Population growth, variation among nations • Population Explosion- family welfare program • 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 	4

Theory Examination:

1. Question paper will be comprising of total 7 questions, each of 10 marks.
2. Only 5 questions need to be solved.
3. Question number 1 will be compulsory and covering the all modules.
4. Remaining questions will be mixed in nature. (e.g.- suppose Q.2 has part (a) from, module 3 then part (b) will be from any module other than module 3.)
5. In question paper weightage of each module will be proportional to number of respective lecture hours as mentioned in the syllabus.

Term work:

Term work shall consist of minimum five projects (PROJECTS SHALL BE DESIGNED ON THE SAME GUIDE- LINE OF GIVEN TEXT BOOK) and a written test.

The distribution of marks for term work shall be as follows,

Laboratory work (Tutorial/Project and Journal) : 15 marks.

Test (at least one) : 10 marks.

The final certification and acceptance of term-work ensures the satisfactory performance of laboratory work and minimum passing in the term-work.

Recommended Books:

Text book

1. Erach Bharucha, text book of environmental studies, Universities Press/Orient Blackswan

Reference book

- 1 Jagdish Krishnaswami, R J Ranjit Daniels, 'Environmental Studies', Wiley India Private Ltd. New delhi
- 2 Anindita Basak, 'Environmental Studies', Pearson
- 3 Deeksha Dave, "Text book of , 'Environmental Studies", Cengage learning, Thomason India edition
- 4 Benny Joseph , 'Environmental Studies", Tata McGRAW HILL
- 5 D L Manjunath, , 'Environmental Studies", Pearson
- 6 R Rajgopalan, , 'Environmental Studies", Oxford
- 7 Alok Debi, 'Environmental science and Engineering", University press