



**GOVERNMENT POLYTECHNIC, PURI
DEPARTMENT OF MECHANICAL ENGINEERING**

Discipline: MECHANICAL ENGG	Semester: 3RD	Name of the Teaching Faculty: MRS. SUBHASHREE PRIYADARSHINI, LECTURER IN CHEMISRY	
Subject: ENVIRONMENTAL STUDIES	No. of days/per week class allotted: 4	Semester From date: 01-10-2021 To Date: 08-01-2022 No. of Weeks: 15	
PRE- REQUISITE	Basic knowledge about Environment, environmental issues, social issues and its eradication.		
COURSE OUTCOMES	CO1: Understand the scope, importance & multidisciplinary nature of environment. CO2: Understand the importance of renewable resources of energy. CO3: Understand importance of ecosystem, biodiversity and its conservation. CO4: Understand the environmental issues and its control measures. CO5: Understand the concept of social issues and its eradication		
Week	Class Day	Theory / Practical Topics	DELIVERY METHOD
1 ST	1 ST	Unit-1- Multidisciplinary nature of environmental studies- Introduction, Definition, Scope	Whiteboard
	2 ND	Importance of Environmental studies, Need for public awareness	Whiteboard
	3 RD	Unit-2- Natural resources- Introduction, definition, Associated problems, Forest Resources- Use & over exploitation, deforestation, Case studies	Whiteboard
	4 TH	Timber extraction, mining, dams and their effects on forests and tribal people	PPT
2 ND	1 ST	Water resources- use & over utilization of surface & ground water, floods, drought, Conflicts over water, dams' benefits and problems	Whiteboard
	2 ND	Mineral resources- use & exploitation, environmental effects of extracting and using mineral resources	Whiteboard
	3 RD	Food resources- World food problem, Changes caused by agriculture & over grazing, Effects of modern agriculture, fertilizers & pesticide problems, water logging & salinity	PPT
	4 TH	Energy resources- Growing energy need, Renewable & non- renewable energy source, use of alternate energy sources	Lecture notes
3 RD	1 ST	Case studies, Land resources- land as a resource, land degradation, man induced landslides	Whiteboard
	2 ND	Soil erosion, desertification, Role of individual in conservation of natural resources, Equitable use of resources for sustainable lifestyles	Whiteboard
	3 RD	Role of individual in conservation of natural resources, Equitable use of resources for sustainable lifestyles	Whiteboard
	4 TH	QUIZ & ASSIGNMENT- 1	PPT
4 TH	1 ST	Unit-3- Ecosystem: concept of ecosystem, structure of ecosystem	Whiteboard
	2 ND	Function of ecosystem, Producers, consumers, decomposers, Energy flow in ecosystem, ecological succession	Whiteboard
	3 RD	Food chain, food web, ecological pyramid	Whiteboard
	4 TH	Forest ecosystem- definition, types, characteristics, structure & function	Whiteboard
5 TH	1 ST	Pond ecosystem	PPT
	2 ND	Stream ecosystem, Lake ecosystem	PPT
	3 RD	River ecosystem	PPT

	4 TH	Ocean ecosystem, Estuaries ecosystem	Whiteboard
6 TH	1 ST	QUIZ & ASSIGNMENT-II	Whiteboard
	2 ND	Unit -4- Biodiversity & its conservation: introduction, definition, genetics, species, and ecosystem diversity	Whiteboard
	3 RD	Biogeographical classification of India	Whiteboard
	4 TH	Value of biodiversity	Lecture notes
7 TH	1 ST	Biodiversity at global level, Biodiversity at national level	Whiteboard
	2 ND	Habitat loss, poaching of wildlife	Whiteboard
	3 RD	Man, wildlife conflicts, Doubt clearing	Whiteboard
	4 TH	Unit-5- Environmental pollution: introduction, definition, Air pollution, Control of air pollution	Whiteboard
8 TH	1 ST	Water pollution, Control of water pollution	Whiteboard
	2 ND	Soil pollution	PPT

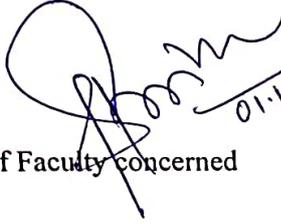
	3 RD	Marine pollution, Noise pollution	Whiteboard
	4 TH	Thermal pollution, nuclear pollution	Whiteboard
9 TH	1 ST	Solid waste management- causes, effect, Control measures	PPT
	2 ND	Waste management, Role of individual in prevention of pollution	PPT
	3 RD	Flood management, Earthquake management	PPT
	4 TH	Cyclone management Landslides management	PPT
10 TH	1 ST	QUIZ & ASSIGNMENT-III	PPT
	2 ND	Unit-6- Social issues & the environment: From unsustainable to sustainable development, urban problems related to energy.	Whiteboard
	3 RD	Water conservation, rain water harvesting, Watershed management, resettlement and rehabilitation of people; its problem and concern	Whiteboard
	4 TH	Environmental ethics: issue and possible solutions. Climate change, global warming	PPT
11 TH	1 ST	Acid rain, ozone layer depletion.	PPT
	2 ND	Nuclear accidents and holocaust, case studies	PPT
	3 RD	Air (prevention and control of pollution) Act	Lecture notes
	4 TH	Water (prevention and control of pollution) Act	Lecture notes
12 TH	1 ST	Public awareness, Doubt clearing	Whiteboard
	2 ND	QUIZ & ASSIGNMENT-IV	
	3 RD	Unit 7- Human population and the Environment: population growth and variation among nations (introduction)	Whiteboard
	4 TH	population growth and variation among nations	Whiteboard
13 TH	1 ST	Population explosion, family welfare program	Whiteboard
	2 ND	Environment and human health	Whiteboard
	3 RD	Human rights	Whiteboard
	4 TH	Value education	Lecture notes
14 TH	1 ST	Role of information technology in environment and human health	Whiteboard
	2 ND	Doubt clearing, revision	Whiteboard
	3 RD	Revision and Previous year question discussion	Whiteboard
	4 TH	QUIZ & ASSIGNMENT-V	Whiteboard
15 TH	1 ST	REVISION	Whiteboard
	2 ND	REVISION	Whiteboard
	3 RD	REVISION	Whiteboard
	4 TH	REVISION	Whiteboard

LEARNING RESOURCES:

1. A Textbook of Environmental Studies, by K Raghavan Nambiar
2. Environmental studies, S. Chand Publication
3. Text Book for Environmental Studies by Erach Bharucha
4. Wikipedia

WEBSITE RESOURCES:

1. <https://www.ugc.ac.in/oldpdf/modelcurriculum/env.pdf>



01.10.2021

Sign. of Faculty concerned



Principal
G.R. Puri



01.10.2021

Sign. of HOD i/c