



**LESSON PLAN: Th5. ENVIRONMENTAL STUDIES (TH-5 ) FOR THE SESSION 2022-23(WINTER-2022)  
 ) BATCH-2021-24, BATCH-2021-24, GOVT. POLYTECHNIC,KANDHMAL**

Civil Engineering	Semester: 3RD	Name of the Teaching Faculty : Bacha Siba Kumar Dora,PTGF in Civil Engg. & Ashish Kumar Nayak ,Lect. In civil Engg.
Subject:Th5. ENVIRONMENTAL STUDIES (TH-5 )	No. of days/ per week class allotted: 4	Semester From Date : 15/09/2022 to Date: 22/12/2022 No. of Weeks: 15
Week	Class Day	Theory/ Practical Topics
		<b>Unit 1: The Multidisciplinary nature of environmental studies</b>
1st	1st	Definition, scope and importance
	2nd	Definition, scope and importance
	3rd	Need for public awareness
	4th	Need for public awareness
		<b>Unit 2: Natural Resources</b>
2nd	1st	Unit 2: Natural Resources a) Natural resources and associated problems
	2nd	☑ Forest resources: Use and over-exploitation, deforestation, case studies, Timber extraction mining, dams and their effects on forests and tribal people
	3rd	☑ Forest resources: Use and over-exploitation, deforestation, case studies, Timber extraction mining, dams and their effects on forests and tribal people
	4th	Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dam's benefits and problems
3rd	1st	☑ Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources
	2nd	Food Resources: World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizers- pesticides problems, water logging, salinity
	3rd	Energy Resources: Growing energy need, renewable and non-renewable energy sources, use of alternate energy sources, case studies
	4th	Land Resources: Land as a resource, land degradation, man induces landslides, soil erosion, and desertification
4th	1st	b) Role of individual in conservation of natural resources
	2nd	c) Equitable use of resources for sustainable life styles.
		<b>Unit 3: Systems</b>
	4th	Concept of an eco system.
5th	1st	☑ Structure and function of an eco system



	2nd	Producers, consumers, decomposers.
	3rd	Energy flow in the eco systems. Ecological succession
	4th	Food chains, food webs and ecological pyramids
6th	1st	Introduction, types, characteristic features, structure and function of the following eco system
	2nd	Forest ecosystem
	3rd	Aquatic eco systems (ponds, streams, lakes, rivers, oceans, estuaries).
		<b>Unit 4: Biodiversity and it's Conservation</b>
	4th	Introduction-Definition: genetics, species and ecosystem diversity
7th	1st	Introduction-Definition: genetics, species and ecosystem diversity
	2nd	Biogeographically classification of India
	3rd	Value of biodiversity: consumptive use, productive use, social ethical, aesthetic and optin values
8th	4th	Value of biodiversity: consumptive use, productive use, social ethical, aesthetic and optin values
	1st	Biodiversity at global, national and local level
	2nd	Threats to biodiversity: Habitats loss, poaching of wild life, man wildlife conflicts
	3rd	Threats to biodiversity: Habitats loss, poaching of wild life, man wildlife conflicts
		<b>Unit 5: Environmental Pollution</b>
	4th	Definition Causes, effects and control measures of:Air pollution
		Definition Causes, effects and control measures of:Air pollution
9th	1st	Definition Causes, effects and control measures of:Water pollution
	2nd	Definition Causes, effects and control measures of:Water pollution
	3rd	Definition Causes, effects and control measures of:Soil pollution
	4th	Definition Causes, effects and control measures of:Soil pollution
10th	1st	Definition Causes, effects and control measures of:Marine pollution
	2nd	Definition Causes, effects and control measures of:Noise pollution
	3rd	Definition Causes, effects and control measures of:Noise pollution
	4th	Definition Causes, effects and control measures of:Thermal pollution
11th	1st	Definition Causes, effects and control measures of:Nuclear hazards.
	2nd	Definition Causes, effects and control measures of:Nuclear hazards.
		<b>Unit 6: Social issues and the Environment</b>
12th	3rd	Form unsustainable to sustainable development
	4th	Urban problems related to energy



	1st	Water conservation, rain water harvesting, water shed management
	2nd	Resettlement and rehabilitation of people; its problems and concern
	3rd	Environmental ethics: issue and possible solutions
	4th	Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. case studies
13th	1st	Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. case studies
	2nd	Air (prevention and control of pollution) Act
	3rd	Water (prevention and control of pollution) Act.
	4th	Public awareness
		<b>Unit 7: Human population and the environment</b>
14th	1st	Population growth and variation among nations
	2nd	Population growth and variation among nations
	3rd	Population explosion- family welfare program
	4th	Environment and human health.
15th	1st	Human rights.
	2nd	Value education
	3rd	Role of information technology in environment and human health
	4th	Role of information technology in environment and human health

*Chhesh Nayak.*  
15/09/22

*D. Soba Kumar*  
15/9/22.

*15/9/22*

