

GOVERNMENT POLYTECHNIC, BALANGIR

DEPARTMENT OF CIVIL ENGINEERING

LESSION PLAN

SESSION 2023-24

SUBJECT: ENVIRONMENTAL ENGINEERING	BRANCH: CIVIL ENGINEERING
NAME OF THE FACULTY: YASHOBANTA NAIK & KSHIROD BIHARI RANA	SEMESTER: 3 RD
SESSION STARTS FROM	

SL NO.	CHAPTER	HOURS	LECTURE NO.	TOPIC TO BE COVERED
1	CHAPTER 01	04	UNIT 1	THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES
			1	Definition, scope and importance
			2	Scope and importance
			3	Need for public awareness.
			4	Need for public awareness.
2	CHAPTER 02	10	Unit 2	NATURAL RESOURCES
			1	Renewable and non-renewable resources
			2	Natural resources and associated problems
			3	Forest resources: Use and over-exploitation, deforestation, case studies, Timber extraction mining, dams and their effects on forests and tribal people.
			4	Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dam's benefits and problems
			5	Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources
			6	Food Resources: World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizers- pesticides problems, water logging, salinity.
			7	Energy Resources: Growing energy need, renewable and non-renewable energy sources, use of alternate energy sources, case studies.
			8	Land Resources: Land as a resource, land degradation, man induces landslides, soil erosion, and desertification.
			9	Role of individual in conservation of natural resources.
			10	Equitable use of resources for sustainable life styles.
3	CHAPTER 03	08	UNIT 3	SYSTEMS
			1	Concept of an eco-system.

			2	Structure and function of an eco-system.
			3	Producers, consumers, decomposers.
			4	Energy flow in the eco systems, Ecological succession.
			5	Food chains, food webs and ecological pyramids.
			6	Introduction, types, characteristic features, structure and function of the following eco system:
			7	Forest ecosystem
			8	Aquatic eco systems (ponds, streams, lakes, rivers, oceans, estuaries).
4	CHAPTER 04	08	UNIT 4	BIODIVERSITY AND IT'S CONSERVATION
			1	Introduction-Definition: genetics, species and ecosystem diversity.
			2	Biogeographically classification of India.
			3	Value of biodiversity: consumptive use,
			4	productive use, social ethical,
			5	aesthetic and Optin values.
			6	Biodiversity at global, national and local level.
			7	Threats to biodiversity: Habitats loss
			8	poaching of wild life, man wildlife conflicts.
5	CHAPTER 05	07	UNIT 5	ENVIRONMENTAL POLLUTION.
			1	Air pollution.
			2	Water pollution.
			3	Soil pollution
			4	Marine pollution
			5	Noise pollution.
			6	Thermal pollution
			7	Nuclear hazards.
			8	Solid waste Management: Causes
			9	effects and control measures of urban and industrial wastes.
			10	Solid waste Management: Causes and effects

			11	Role of an individual in prevention of pollution.
			12	Disaster management: floods, earth quake, cyclone and landslides.
6	CHAPTER 06	10	UNIT 6	SOCIAL ISSUES AND THE ENVIRONMENT
			1	Form unsustainable to sustainable development.
			2	Urban problems related to energy
			3	Water conservation, rain water harvesting, water shed management.
			4	Resettlement and rehabilitation of people; its problems and concern.
			5	Environmental ethics: issue and possible solutions.
			6	Climate change, global warming, acid rain, ozone layer depletion,
			7	Nuclear accidents and holocaust, case studies.
			8	Air (prevention and control of pollution) Ac
			9	Water (prevention and control of pollution) Act
			10	Public awareness.
7	CHAPTER 07	08	UNIT 7	HUMAN POPULATION AND THE ENVIRONMENT
			1	Population growth and variation among nations.
			2	Population explosion- family welfare program.
			3	Environment and human health.
			4	Environment and human health.
			5	Human rights.
			6	Value education
			7	Role of information technology in environment and human health.
			8	Role of information technology in environment and human health.