

Branch: Mechanical Engsem .: Second Subject : Environmental Science Teacher: Shareshtha Devi

Proposed Lesson Plan

Period:27/01/24 to 25/05/24			25/05/24	Total Lectures Planned: 32			
S.N o.	Week	No. of Lect ures	Chapter/U nit Descriptio n	Detail of content	Referenc e Resourc es	Rema rks	
1	5th Jan	4	Unit-1 Ecosyste m	Structure of ecosystem, Biotic & Abiotic components Food chain and food web Aquatic (Lentic and Lotic) and terrestrial ecosystemCarbon, Nitrogen, Sulphur, Phosphorus cycle. Global warming -Causes, effects, process, Green House Effect, Ozone depletion	s R1,R2		
2	2nd Feb 3rd Feb 4th Feb	6	Unit– 2 Air and, Noise Pollution	Definition of pollution and pollutant, Natural and manmade sources of air pollution (Refriger- ants, I.C., Boiler) ,Air Pollutants: Types, Particulate Pollutants: Effects and control (Bag filter, Cyclone separator, Electrostatic Precipitator). Gaseous Pollution Control: Absorber, Catalytic Converter, Effects of air pollution due to Refrigerants, I.C., Boiler. Noise pollution: sources of pollution, measurement of pollution level, Effects of Noise pollu-tion, Noise pollution (Regulation and Control) Rules, 2000.	R1,R2		
3	5th Feb 1st March	6	Unit- 3 Water and Soil Pollution	Tur-bidity, pH, total suspended solids, total solids BOD and COD: Definition, calculation. Waste Water Treatment: Primary methods: sedimentation, froth floatation, Secondary meth- ods: Activated sludge treatment, Trickling filter, Bioreactor, Tertiary Method: Sources of water pollution, Types of water pollutants, Characteristics of water pollutants Membrane sepa-ration technology, RO (reverse osmosis). Causes, Effects and Preventive measures of Soil	R1,R2		
	2nd March			Pollution: Causes-Excessive use of Fertilizers, Pesticides and Insecticides, Irrigation, E- Waste.			

4	4th March	8		Solar Energy: Basics of Solar energy. Flat plate collector (Liquid & Air). Theory of flat plate col- lector. Importance of coating. Advanced collector. Solar pond. Solar water heater, solar dryer.Solar stills.	
	1st April		Unit– 4 Renewabl e sources of Energy	Biomass: Overview of biomass as energy source. Thermal characteristics of biomass as fuel. Anaerobic digestion. Biogas production mechanism. Utilization and storage of biogas.	R1,R2,R 3
	2nd April			wind energy. Wind energy in India. Environmental benefits and problem of wind energy. New Energy Sources: Need of new sources.	
	3rd April			Applications of (Hydrogen energy sources. Applications of (Hydrogen energy, Ocean energy resources, Tidal energy conversion.) Concept, origin and power plants of geothermal	
	4th April	8	Unit-5 Solid	Solid waste generation- Sources and characteristics of : Municipal solid waste, E- waste, bio-medical waste.Metallic wastes and Non-Metallic	
	1st May			wastes (lubricants, plastics, rubber) from industries. Collection and disposal: MSW (3R, principles,	
5	2nd May		Managem ent, ISO	energy recovery, sanitary landfill), Hazardous. Waste Air quality act 2004, air pollution control act 1981 and water pollution and control	R1,R2,R 3
	3rd May		Environm ental	act1996.Structure and role of Central and state pollution control board. Concept of Carbon Credit, Carbon Footprint.	
	4th May		Managem ent	Environmental management in fabrication industry.ISO14000: Implementation in industries, Benefits.	

Environmental Studies by S.C. Sharma & M.P. Poonia ES&DM by Ved. P. Verma Kataria&sons OSS(open source Software) R1

R2

R3

HOD

Signature of Teacher



Branch: Computer Engreem .: Second Subject : Environmental Science Teacher: Shareshtha Devi Proposed Lesson Plan:

Peri	eriod:27/01/24 to 25/05/24			Total Lectures Planned: 32			
S.N o.	Week	No. of Lect ures	Chapter/U nit Descriptio n	Detail of content	Referenc e Resourc es	Rema rks	
1	5th Jan 1st Feb	4	Unit-1 Ecosyste m	Structure of ecosystem, Biotic & Abiotic components Food chain and food web Aquatic (Lentic and Lotic) and terrestrial ecosystemCarbon, Nitrogen, Sulphur, Phosphorus cycle. Global warming -Causes, effects, process, Green House Effect, Ozone depletion	R1,R2		
2	2nd Feb		Unit– 2	Definition of pollution and pollutant, Natural and manmade sources of air pollution (Refriger- ants, I.C., Boiler) ,Air Pollutants: Types, Particulate Pollutants: Effects and control (Bag filter, Cyclone separator, Electrostatic Precipitator).	R1.R2		
	3rd Feb	6	6 Air and, Noise Pollution	Gaseous Pollution Control: Absorber, Catalytic Converter, Effects of air pollution due to Refrigerants, I.C., Boiler. Noise pollution: sources of pollution, measurement of pollution level. Effects of Noise			
	4th Feb				pollu-tion, Noise pollution (Regulation and Control) Rules, 2000.		
3	5th Feb	6		Tur-bidity, pH, total suspended solids, total solids BOD and COD: Definition, calculation. Waste Water Treatment: Primary methods: sedimentation, froth floatation, Secondary methods: Activated sludge treatment. Trickling			
	1st March		Unit- 3 Water and Soil	Jnit-3 Water nd Soil	R1,R2		
	2nd March		Pollution	Membrane sepa-ration technology, RO (reverse osmosis). Causes, Effects and Preventive measures of Soil Pollution: Causes-Excessive use of Fertilizers, Pesticides and Insecticides, Irrigation, E- Waste.			

-		T		15	Solar Energy: Basics of Solar energy. Flat plate	T	
		415		c	collector (Liquid & Air). Theory of flat		
		March		F	blate col- lector. Importance of coating. Advanced		
					collector. Solar pond. Solar water		
				l,	heater, solar dryer. Solar stills.		
				1	Biomass: Overview of biomass as energy source.	1	
					I nermal characteristics of biomass as		
		1st April		Unit-4	uel. Anaerobic digestion, Biogas production		
	4		8	Renewabl	mechanism. Utilization and storage of	RI,RZ,R	
				e sources	plogas.	3	
				of Energy	wind energy. Current status and future prospects of		
		2nd			wind energy. Wind energy in India.		
		April			Environmental benefits and problem of wind energy.		
					Different types new operation for sources.	1 1	
		2-4			Applications of (Hydrogon operay, Ocean energy	1 1	
		April			Applications of (Hydrogen energy, Ocean energy		
					Concept, arigin and newer plants of geothermal		
┝					Solid waste generation. Sources and characteristics		
		4th April			of : Municipal solid waste E- waste		
					bio-medical waste Metallic wastes and Non-Metallic		
					wastes (lubricante plastics rubber)		
		1st May		Unit-5	from industries		
		5		Solid	Collection and disposal: MS/W (3R principles		
				Waste	energy recovery sanitary landfill)		
		2nd		Managem	Hazardous Waste Air quality act 2004 air pollution		
	5	May	8	ent, ISO	control act 1981 and water pollution and control	R1,R2,R	
	5			14000 &	act1996 Structure and role of Central and state	3	
l		3rd May		Environm	pollution control board		
				ental	Concept of Carbon Credit, Carbon Footprint	1	
			1	Managem	Environmental management in fabrication		1
				ent	industry ISO14000: Implementation in industries		
		Ath Mar			Ronofite		
			1				-

- Environmental Studies by S.C. Sharma & M.P. Poonia **R1**
- ES&DM by Ved. P. Verma Kataria&sons R2
- OSS(open source Software) R3

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Sem.: Second

Branch: Cine Enger Subject : Environmental Science Teacher: Shareshtha Devi d Lasson Blan

Prop	eriod:27	/01/24	to 25-04	Total Lectures Planned: 32	_	
S.N o.	Week	No. of Lect ures	Chapter/ Unit Descripti on	Detail of content	Referenc e Resource s	Rema rks
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2	2nd Feb		Unit– 2	Definition of pollution and pollutant, Natural and manmade sources of air pollution (Refriger- ants, I.C., Boiler) ,Air Pollutants: Types, Particulate Pollutants: Effects and control (Bag filter, Cyclone separator, Electrostatic Precipitator).	R1,R2	
	3rd Feb 4th Feb	6	6 Air and, Noise Pollution	Gaseous Pollution Control: Absorber, Catalytic Converter, Effects of air pollution due to Refrigerants, I.C., Boiler. Noise pollution: sources of pollution, measurement of pollution level, Effects of Noise pollu-tion, Noise pollution (Regulation and Control) Rules, 2000.		
3	5th Feb			Tur-bidity, pH, total suspended solids, total solids BOD and COD: Definition, calculation. Waste Water Treatment: Primary methods: sedimentation, froth floatation, Secondary meth- ods: Activated sludge treatment, Trickling		
	1st March	6	6 Unit- 3 Water and Soil	filter, Bioreactor, Tertiary Method: Sources of water pollution, Types of water pollutants, Characteristics of water pollutants	R1,R2	
	2nd March		Poliution	Membrane sepa-ration technology, RO (reverse osmosis). Causes, Effects and Preventive measures of Soil Pollution: Causes-Excessive use of Fertilizers, Pesticides and Insecticides, Irrigation, E- Waste.		

4	4th March			Solar Energy: Basics of Solar energy. Flat plate collector (Liquid & Air). Theory of flat plate col- lector. Importance of coating. Advanced collector. Solar pond. Solar water heater, solar dryer.Solar stills. Biomass: Overview of biomass as energy source.	` k	
	1st April	8	Unit– 4 Renewa ble sources of	Thermal characteristics of biomass as fuel. Anaerobic digestion. Biogas production mechanism. Utilization and storage of biogas. Wind energy: Current status and future prospects of	R1,R2,R 3	
	2nd April		Energy	Environmental benefits and problem of wind energy. New Energy Sources: Need of new sources. Different types new energy sources.		
	3rd April			Applications of (Hydrogen energy, Ocean energy resources, Tidal energy conversion.) Concept, origin and power plants of geothermal		
	4th April			Solid waste generation- Sources and characteristics of : Municipal solid waste, E- waste, bio-medical waste.Metallic wastes and Non-Metallic		
	1st May		Unit-5 Solid Waste	wastes (lubricants, plastics, rubber) from industries. Collection and disposal: MSW (3R, principles,		
5	2nd May	8	Manage ment, ISOenergy recovery, sanitary landfill), Maste Air quality act 2004, air pollution and control8ISO control act 1981 and water pollution and control	energy recovery, sanitary landfill), Hazardous. Waste Air quality act 2004, air pollution control act 1981 and water pollution and control	R1,R2,R 3	
	3rd May		Environ mental	pollution control board. Concept of Carbon Credit, Carbon Footprint.		
	4th May		ment	industry.ISO14000: Implementation in industries, Benefits.		

- R1 Environmental Studies by S.C. Sharma & M.P. Poonia
- R2 ES&DM by Ved. P. Verma Kataria&sons
- R3 OSS(open source Software)

HOD

Signature of Teacher



Sem.: Second

Branch: 27 Sem Subject : Environmental Science

Teacher: Shareshtha Devi Proposed Lesson Plan: Period:27/01/24 to 25/05/24 S.N No. Chapter/U of nit Description	Clas			
Perio	od:27/01	/24 to :	25/05/24	Total Lectures Planned: 32
S.N	Week	No. of	Chapter/U nit	Detail of content

S.N o.	Week	No. of Lect ures	Chapter/U nit Descriptio n	Detail of content	Referenc e Resourc es	Rema rks	
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	2nd Feb		Unit– 2	Definition of pollution and pollutant, Natural and manmade sources of air pollution (Refriger- ants, I.C., Boiler) ,Air Pollutants: Types, Particulate Pollutants: Effects and control (Bag filter, Cyclone separator, Electrostatic Precipitator).	R1,R2		
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	5th Feb			Tur-bidity, pH, total suspended solids, total solids BOD and COD: Definition, calculation. Waste Water Treatment: Primary methods: sedimentation, froth floatation, Secondary meth- ods: Activated sludge treatment, Trickling			
3	1st March	6	6	Unit- 3 Water and Soil	filter, Bioreactor, Tertiary Method: Sources of water pollution, Types of water pollutants, Characteristics of water pollutants	R1,R2	
	2nd March		Pollution	Membrane sepa-ration technology, RO (reverse osmosis). Causes, Effects and Preventive measures of Soil Pollution: Causes-Excessive use of Fertilizers, Pesticides and Insecticides, Irrigation, E- Waste.			

	4th			Solar Energy: Basics of Solar energy. Flat plate collector (Liquid & Air). Theory of flat plate col- lector. Importance of coating. Advanced		
	March			collector. Solar pond. Solar water		
				heater, solar dryer.Solar stills.		
				Thermal characteristics of biomass as		
	1 at April		Unit-4	fuel. Anaerobic digestion. Biogas production		
	I'st April		Renewabl	mechanism. Utilization and storage of	R1.R2.	R
4		0	e sources	biogas.	3	
			of Energy	Wind energy: Current status and future prospects of	F	
	204			wind energy. Wind energy in India.		2,R ,R
	April			Environmental benefits and problem of wind energy.		
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	3rd			Different types new energy sources.		
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			Linit 5	wastes (lubricants, plastics, rubber)		
	1st May		Solid	from industries.		
			Waste	Collection and disposal: MSW (3R, principles,		
	2nd	Manag	Managem	energy recovery, sanitary landfill),		
-	May	•	ent, ISO	Hazardous. Waste Air quality act 2004, air pollution	R1,R2,R	
5		8	14000 &	control act 1981 and water pollution and control	3	
	3rd May		Environm	act 1996. Structure and role of Central and state		
			ental	Concent of Carbon Credit, Carbon Footprint		
			Managem	Environmental management in fabrication		
			ent	industry.ISO14000: Implementation in industries,		
	4th May			Benefits.		

- R1 Environmental Studies by S.C. Sharma & M.P. Poonia
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