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**DEPARTMENT OF ELECTRICAL ENGINEERING**  
**Govt. Polytechnic, Balasore**

LESSON PLAN FOR ACADEMIC SESSION - 2023-24  
POWER ELECTRONICS AND PLC

Course Code : Th.5	Semester : 5th
Total Periods : 60 Periods	Examination : 3 Hours
Theory Periods : 4 P/Week	Internal Assessment : 20 Marks
Tutorial : -	End Semester Examination : 80 Marks
Maximum Marks : 100	
Semester From Date : 01/08/2023	To Date : 09/12/23
Name of Teaching Faculty: Er. Radha Rani Panda	

Week	Class day	Theory Topic
1	1 <sup>st</sup>	<b>The Multidisciplinary nature of environmental studies:</b> Definition, scope and importance
	2 <sup>nd</sup>	Need for public awareness
	3 <sup>rd</sup>	Need for public awareness
	4 <sup>th</sup>	Different case Study related of Environment
2	1 <sup>st</sup>	<b>Renewable and non-renewable resources:</b> Natural resources and associated problems.
	2 <sup>nd</sup>	Forest resources: Use and over-exploitation, deforestation, case studies, Timber extraction mining, dams and their effects on forests and tribal people.
	3 <sup>rd</sup>	Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dam's benefits and problems
	4 <sup>th</sup>	Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources.
3	1 <sup>st</sup>	Food Resources: World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizers- pesticides problems, water logging, salinity,.
	2 <sup>nd</sup>	Energy Resources: Growing energy need, renewable and non-renewable energy sources, use of alternate energy sources

	3 <sup>rd</sup>	Energy Resources: case studies.
	4 <sup>th</sup>	Land Resources: Land as a resource, land degradation, man induces landslides, soil erosion and desertification.
4	1 <sup>st</sup>	Role of individual in conservation of natural resources.
	2 <sup>nd</sup>	Equitable use of resources for sustainable life styles.
	3 <sup>rd</sup>	<b>Systems:</b> Concept of an eco-system.
	4 <sup>th</sup>	Structure and function of an eco-system.
5	1 <sup>st</sup>	Producers, consumers, decomposers.
	2 <sup>nd</sup>	Energy flow in the eco systems.
	3 <sup>rd</sup>	Ecological succession.
	4 <sup>th</sup>	Food chains, food webs and ecological pyramids.
6	1 <sup>st</sup>	Introduction, types, characteristic features, structure and function of the following eco system: Forest ecosystem:
	2 <sup>nd</sup>	Aquatic eco systems (ponds, streams, lakes, rivers, oceans, estuaries).
	3 <sup>rd</sup>	<b>Biodiversity and it's Conservation:</b> Introduction-Definition: genetics, species and ecosystem diversity.
	4 <sup>th</sup>	Biogeographically classification of India.
7	1 <sup>st</sup>	Biogeographically classification of India.
	2 <sup>nd</sup>	Value of biodiversity: consumptive use, productive use
	3 <sup>rd</sup>	Value of biodiversity: social ethical, aesthetic and optin values.
	4 <sup>th</sup>	Biodiversity at global, national and local level.
8	1 <sup>st</sup>	Threats to biodiversity: Habitats loss, poaching of wild life,
	2 <sup>nd</sup>	Threats to biodiversity: man wildlife conflicts.

Signature

	3 <sup>rd</sup>	<b>Environmental Pollution:</b> Definition Causes, effects and control measures of: Air pollution.
	4 <sup>th</sup>	Causes, effects and control measures of: Water pollution
9	1 <sup>st</sup>	Causes, effects and control measures of: Soil pollution
	2 <sup>nd</sup>	Causes, effects and control measures of: Marine pollution
	3 <sup>rd</sup>	Causes, effects and control measures of: Noise pollution.
	4 <sup>th</sup>	Causes, effects and control measures of: Thermal pollution
10	1 <sup>st</sup>	Causes, effects and control measures of: Nuclear hazards
	2 <sup>nd</sup>	Solid waste Management: Causes, effects and control measures of Urban wastes.
	3 <sup>rd</sup>	Solid waste Management: Causes, effects and control measures of industrial wastes.
	4 <sup>th</sup>	Role of an individual in prevention of pollution.
11	1 <sup>st</sup>	Disaster management: Floods, earth quake
	2 <sup>nd</sup>	Disaster management: Cyclone and landslides.
	3 <sup>rd</sup>	<b>Social issues and the Environment:</b> Form unsustainable to sustainable development.
	4 <sup>th</sup>	Urban problems related to energy.
12	1 <sup>st</sup>	Water conservation, rain water harvesting, water shed management.
	2 <sup>nd</sup>	Resettlement and rehabilitation of people; its problems and concern.
	3 <sup>rd</sup>	Environmental ethics: issue and possible solutions.
	4 <sup>th</sup>	Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust,
13	1 <sup>st</sup>	case studies.
	2 <sup>nd</sup>	Air (prevention and control of pollution) Act.
	3 <sup>rd</sup>	Water (prevention and control of pollution) Act.

Signature

	4 <sup>th</sup>	Public awareness.
14	1 <sup>st</sup>	<b>Human population and the environment:</b> Population growth and variation among nations.
	2 <sup>nd</sup>	Population explosion- family welfare program.
	3 <sup>rd</sup>	Population explosion- family welfare program.
	4 <sup>th</sup>	Environment and human health.
15	1 <sup>st</sup>	Human rights.
	2 <sup>nd</sup>	Value education
	3 <sup>rd</sup>	Role of information technology in environment and human health.
	4 <sup>th</sup>	Role of information technology in environment and human health.

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