

GOVERNMENT POLYTECHNIC KORAPUT
DEPARTMENT OF ELECTRICAL ENGINEERING

TH5. ENVIRONMENTAL STUDIES

Name of the Course: Diploma in Electrical Engineering			
Name of the Faculty: S Bichiballi		Semester: 3 rd	
Course code:	Th5	Examination duration:	3 hrs
Total Period:	60	Internal Assessment :	20
Theory periods:	4P/week	End Semester Examination:	80
Maximum marks:	100		

VISION:

To create competent & industry ready Electrical Diploma Engineers with professional and social values to meet future challenges.

MISSION:

- To prepare diploma holders through “qualitative competency based education system” to compete with national requirement along with core values.
- To produce dynamic Electrical Engineers to serve the society and industry.
- To develop leadership qualities, communication skills, critical thinking and attitude for lifelong learning.

PROGRAM EDUCATIONAL OBJECTIVES:

PEO1	Apply technical knowledge and skills learned in the field of Electrical Engineering to excel in Professional and/or higher education.
PEO2	To provide students an excellent academic environment and make them aware the needs of Society and Industry to become a successful Professional/Entrepreneur.
PEO3	To engage in lifelong learning, career enhancement to adopt emerging technologies

COURSE OUTCOMES:

CO1	Define and explain in brief about environment, ecosystem, and biodiversity.
CO2	Visualize the need for sustainable use of natural resources.
CO3	Examine environmental pollutions; take remedial & precautionary steps through public awareness.
CO4	Correlate environmental problems with population growth and lack of education.



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TOPIC WISE DISTRIBUTION OF PERIODS

Sl. No.	Topics	Periods
1	The Multidisciplinary nature of environmental studies	04
2	Natural Resources	10
3	Systems	08
4	Biodiversity and it's Conservation	08
5	Environmental Pollution	12
6	Social issues and the Environment	10
7	Human population and the environment	08
	Total:	60

LESSON PLAN

Week	Day	Theory topic
1 st	1 st	The Multidisciplinary nature of environmental studies: Definition, scope.
	2 nd	Importance.
	3 rd	Need for public awareness.
	4 th	Need for public awareness.
2 nd	1 st	Natural Resources: Renewable and non renewable resources
	2 nd	Natural resources and associated problems.
	3 rd	Forest resources: Use and over-exploitation, deforestation, case studies, Timber extraction mining, dams and their effects on forests and tribal people.
	4 th	Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dam's benefits and problems.
3 rd	1 st	Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources.
	2 nd	Food Resources: World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizers- pesticides problems, water logging, salinity, .
	3 rd	Energy Resources: Growing energy need, renewable and non-renewable energy sources, use of alternate energy sources, case studies.
	4 th	Land Resources: Land resource, land degradation, man induces landslides, soil erosion, and desertification.
4 th	1 st	Role of individual in conservation of natural resources. Equitable use of resources for sustainable life styles.
	2 nd	Previous year question discussion
	3 rd	Systems: Concept of an eco system.
	4 th	Structure and function of an eco system.
5 th	1 st	Producers, consumers, decomposers.
	2 nd	Energy flow in the eco systems.
	3 rd	Ecological succession.
	4 th	Food chains, food webs and ecological pyramids.
6 th	1 st	Introduction, types, characteristic features, structure and function of the following eco system: Forest ecosystem

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	2 nd	Aquatic eco systems (ponds, streams, lakes, rivers, oceans, estuaries).
	3 rd	Biodiversity and it's Conservation: Introduction
	4 th	Definition of genus, species and ecosystem diversity.
7 th	1 st	Biogeographically classification of India.
	2 nd	Value of biodiversity: consumptive use, productive use, sociaethical, aesthetic and optimal values.
	3 rd	Biodiversity at global, national and local level.
	4 th	Threats to biodiversity: Habitats loss, poaching of wild life, manwildlife conflicts.
8 th	1 st	Previous year question discussion
	2 nd	Previous year question discussion
	3 rd	Environmental Pollution: Defimtion Causes, effects and control measures of: Air pollution.
	4 th	Water pollution.
9 th	1 st	Soil pollution.
	2 nd	Marine pollution.
	3 rd	Noise pollution.
	4 th	Thermal pollution.
10 th	1 st	Nuclear hazards.
	2 nd	Solid waste Management: Causes, effects and control measures ofurban and industrial wastes.
	3 rd	Role of an individual in prevention of pollution.
	4 th	Disaster management: Floods, earth quake
11 th	1 st	Cyclone and landslides.
	2 nd	Previous year question discussion
	3 rd	Social issues and the Environment: From unsustainable to sustainable development.
	4 th	Urban problems related to energy.
12 th	1 st	Water conservation, rain water harvesting, water shedmanagement.
	2 nd	Resettlement and rehabilitation of people; its problems and concern.
	3 rd	Environmental ethics: issue and possible solutions.
	4 th	Climate change, global warming, acid rain.
13 th	1 st	Ozone layerdepletion, nuclear accidents and holocaust, case studies.
	2 nd	Air (prevention and control of pollution) Act.
	3 rd	Water (prevention and control of pollution) Act.
	4 th	Public awareness.
14 th	1 st	Human population and the environment: Population growth and variation among nations.
	2 nd	Population explosion- family welfare program.
	3 rd	Environment and human health.
	4 th	Human rights.
15 th	1 st	Value education
	2 nd	Previous year question discussion
	3 rd	Previous year question discussion
	4 th	Previous year question discussion

Signature of faculty concerned

H.O.D. Electrical