TH5. ENVIRONMENTAL STUDIES

Name of the Course: Diploma in Electrical Engineering			
Name of the Faculty: S Bichiballi Semester start- 1/10/21			
Course code:	Th5	**Semester:**	3rd
Total Period:	60	**Examination duration:**	3 hrs
Theory periods:	4P/week	**Internal Assessment :**	20
Maximum marks:	100	**End Semester Examination:**	80

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.

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
1st	1st	**The Multidisciplinary nature of environmental studies:** Definition, scope.
	2nd	Importance.
	3rd	Need for public awareness.
	4th	Need for public awareness.
2nd	1st	**Natural Resources:** Renewable and non renewable resources
	2nd	Natural resources and associated problems.
	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, uscof alternate energy sources, case studies.
	4th	Land Resources: Land resource, land degradation, man induces landslides, soil erosion, and desertification.
4th	1st	Role of individual in conservation of natural resources. Equitable use of resources for sustainable life styles.
	2nd	Previous year question discussion
	3rd	**Systems:** Concept of an eco system.
	4th	Structure and function of an eco system.
5th	1st	Producers, consumers, decomposers.
	2nd	Energy flow in the eco systems.
	3rd	Ecological succession.
	4th	Food chains, food webs and ecological pyramids.
6th	1st	Introduction, types, characteristic features, structure and function ofthe following eco system: Forest ecosystem

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

Signature of faculty concerned 7/10/21

H.O.D. Electrical 7/10/21