Discipline: **Electrical Engg.**	Semester:**3rd (A)**	Name of the teaching faculty:**KUMUDINI BEHERA**
Subject-**Environmental Studies**	No. of Days/per week class allotted:**04 PERIODS/WEEK (MON, FRI -1 period each THUR-2nos periods)**	Semester: From Date: **1/10/2021** To Date:**08/01/2022** No. of weeks: **15 WEEKS**
Week	Class Day	Theory/Practical Topics
1st (01/10/2021-02/10/2021)	01/10/2021	**1. Multidisciplinary nature of environmental studies:** 1.1 definition,scope and importance
2nd (04/10/2021-09/10/2021)	04/10/2021	**1. Multidisciplinary nature of environmental studies: The** 1.1 Definition, scope and importance
	07/10/2021	1.2 Need for public awareness
	07/10/2021	1.2 Need for public awareness
3rd (11/10/2021-18/10/2021)		**PUJA HOLIDAY**
4th (18/10/2021-23/10/2021)	21/10/2021	1.2 Need for public awareness.
	22/10/2021	**Class Test-1**
5th(25/102021-30/102021)		N.A
6th (01/11/2021-06/11/2021)	01/11/2021	**2. Natural Resources:** Renewable and non renewable resources: 2.1 Natural resources and associated problems.
	05/11/2021	2.1.1 Forest resources: Use and over-exploitation, deforestation, case studies, Timber extraction mining, dams and their effects on forests and tribal people.
7th (08/11/2021-13/11/2021)	08/11/2021	2.1.2 Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dam's benefits and problems
	11/11/2021	2.1.3 Mineral Resources: Use and exploitation, environmental effects

		of extracting and using mineral resources.
	11/11/2021	2.1.4 Food Resources: World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizers-pesticides problems, water logging, salinity.
	13/11/2021	2.1.5 Energy Resources: Growing energy need, renewable and non-renewable energy sources, use of alternate energy sources, case studies
	09/11/2021	2.1.6 Land Resources: Land resources, land degradation, man induces landslides, soil erosion, and desertification
	10/11/2021	2.2 Role of individual in conservation of natural resources
	11/11/2021	2.3 Equitable use of resources for sustainable life styles
8th (15/11/2021-20/11/2021)	15/11/2021	**3. Systems** 3.1 Concept of an eco system. 3.2structure and function of an eco system. 3.3producers ,consumers, decomposers.
	18/11/2021	**Class Test 2**
	18/11/2021	3.4 Eenergy flow in the eco system 3.5 Ecological succession.
9th (22/11/2021-27/11/2021)	22/11/2021	3.6Foodchains, food webs and ecological pyramids
	25/11/2021	3.7Introduction, types, characteristic features, structure and function of the following eco system:
	25/11/2021	3.6 Introduction, types, characteristic features, structure and function of the following eco system:
	26/11/2021	3.7 Forest Ecosystem:
10th (29/11/2021-04/12/2021)	29/11/2021	3.8 Aquatic eco systems (ponds, streams, lakes, rivers, oceansestuaries).
	02/12/2021	**4.Biodiversity and it's Conservation:** 4.1 Introduction-Definition: genetics, species and ecosystemdiversity.
	02/12/2021	4.2 Biogeographically classification of India
	03/12/2021	4.3 Value of biodiversity: consumptive use, productive use, social ethical, aesthetic and option values
11th (06/12/2021-11/12/2021)	06/12/2021	**Internal Assessment**

	09/12/2021	4.3 Value of biodiversity: consumptive use, productive use, social ethical, aesthetic and option values
	09/12/2021	4.4 Biodiversity at global, national and local level.
	10/12/2021	4.5 Threats to biodiversity: Habitats loss, poaching of wild life, man wildlife conflicts
12th (13/12/2021-18/12/2021)	13/12/2021	**5. Environmental Pollution:** 5.1. Definition Causes, effects and control measures of: 5.1.1 Air pollution. 5.1.2 Water pollution. 5.1.3 Soil pollution
	16/12/2021	5.1.4 Marine pollution 5.1.5 Noise pollution. 5.1.6 Thermal pollution 5.1.7 Nuclear hazards.
	16/12/2021	5.2 Solid waste Management: Causes, effects and control measuresof urban and industrialwastes.
	17/12/2021	5.3 Role of an individual in prevention ofpollution.
13th (20/12/2021-25/12/2021)	20/12/2021	5.4 Disaster management: Floods, earth quake, cyclone and landslides.
	23/12/2021	**6 Social issues and the environment** 6.1 form unsustainable to sustainable development. 6.2 urban problems related to energy 6.3 Water conservation, rain water harvesting, water shed management.
	23/12/2021	6.4 Water conservation, rain water harvesting, water shed management.
	24/12/2021	6.5 Resettlement and rehabilitation of people; its problems andconcern.
14th (27/12/2021-01/01/2022)	27/12/2021	6.2 Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, case studies. 6.3 Environmental ethics: issue and possible solutions
	30/12/2021	6.4 Air (prevention and control of pollution)Act.

		6.5 Water (prevention and control of pollution)Act. 6.6 Public awareness.
	30/12/2021	**Class test 3**
	31/12/2022	**7 Human population and the environment** 7.1 population and growthand variation among nations. 7.2 population explosion family welfare program. 7.3Environment andhuman health.
15th (03/1/2022-08/01/2022)	03/01/2022	7.5 Value education 7.4Humanrights
	06/01/2022	7.6 Role of information technology in environment and human health
	06/01/2022	**Class test 4**
	07/01/2022	**Revision**

BHUBANANANDA ORISSA SCHOOL OF ENGINEERING, CUTTACK

ELECTRICAL ENGG.DEPARTMENT

LESSON PLAN

SEMESTER :3rd(A)

SESSION – Winter(2021-22)

SUBJECT: Environmental Studies

NAME OF FACULTY:KUMUDINI BEHERA

Discipline: **Electrical Engg.**	Semester:**5th (B)**	Name of the teaching faculty: **KUMUDINI BEHERA**
Subject-**UEET**	No. of Days/per week class allotted:**04PERIODS /WEEK (MON, TUE,WED, FRI -1 period each)**	Semester: From Date: **1/10/2021** To Date: **08/01/2022** No. of weeks: **15 WEEKS**
Week	Class Day	Theory/Practical Topics
1st (01/10/2021-02/10/2021)	1/10/2021	**1. ELECTROLYTIC PROCESS** 1.1 Definition and Basic principle of Electro Deposition. 1.2 Important terms regarding electrolysis.
2nd (04/10/2021-09/10/2021)	4/10/2021	1.3 Faradays Laws of Electrolysis.
	5/10/2021	1.4 Definitions of current efficiency, Energy efficiency 1.5 Principle of Electro Deposition
3rd (11/10/2021-16/10/2021)		**PUJA HOLIDAY**
4th (18/10/2021-23/10/2021)	22/10/2021	1.6 Factors affecting the amount of Electro Deposition 1.7 Factors governing the electro deposition
5th (25/10/2021-30/10/2021)	25/10/2021	1.8 State simple example of extraction of metals.
	26/10/2021	1.9 Application of Electrolysis **2. ELECTRICAL HEATING** 2.1. Advantages of electrical heating.
	27/10/2021	2.2. Explain mode of heat transfer and Stephen's Law 2.3. Discuss principle of Resistance heating.
	29/10/2021	2.3.1 Direct Resistance heating. 2.3.2 Indirect Resistance heating.
6th (01/11/2021-06/11/2021)	01/11/2021	2.4. Explain working principle of direct arc furnace and indirect arc furnace
	02/11/2021	**Class test 1**

	03/11/2021	2.5. Principle of Induction heating
	05/11/2021	2.5.1Working principle of direct core type, vertical core type and indirect core type Induction furnace
7th (08/11/2021-13/11/2021)	08/11/2021	2.5.2 Principle of coreless induction furnace and skin effect.
	09/11/2021	2.6. Principle of dielectric heating and its application.
	10/11/2021	2.7. Principle of Microwave heating and its application **3. PRINCIPLES OF ARC WELDING** 3.1 Explain principle of arc welding.
	12/11/2021	3.2 Discuss D. C. & A. C. arc phenomena
8th (15/11/2021-20/11/2021)	15/11/2021	3.3 D.C. & A. C. arc welding plants of single and multi-operation type
	16/11/2021	3.4 Types of arc welding.
	17/11/2021	3.5 Explain principles of resistance welding.
9th (22/11/2021-27/11/2021)	22/11/2021	**Class test 2**
	23/11/2021	3.6 Descriptive study of different resistance welding methods
	24/11/2021	**4. ILLUMINATION** 4 . 1 Nature of Radiation and its spectrum 4 . 2 Terms used in Illuminations. i. Luminous intensity
	26/11/2021	ii. Lumen iii. Intensity of illumination iv. MHCP v. MSCP vi. MHSCP vii. Brightness viii. Solid angle ix. Luminous efficiency 4 . 3 Explain the inverse square law and the cosine law 4 . 4 Explain polar curves.
10th (29/11/2021-04/12/2021)	29/11/2021	4 . 5 Describe light distribution and control. Explain related

		definitions like maintenance factor and depreciation factors 4 . 6 Design simple lighting schemes and depreciation factor. 4 . 7 Constructional feature and working of Filament lamps, effect of variation of voltage on working of filament lamps
	30/11/2021	4 . 8 Explain Discharge lamps. 4 . 9 State Basic idea about excitation in gas discharge lamps
	01/12/2021	4.10 State constructional factures and operation of Fluorescent lamp. (PL and PLL Lamps) 4.11 Sodium vapor lamps.
	03/12/2021	4.12 High pressure mercury vapor lamps. 4.13 Neon sign lamps. 4.14 High lumen output & low consumption fluorescent lamps
11th (06/12/2021-11/12/2021)	06/12/2021	**1st internal Assessment**
	07/12/2021	**5. INDUSTRIAL DRIVES** 5 . 1 State group and individual drive.
	08/12/2021	5 . 2 Method of choice of electric drives.
	10/12/2021	5 . 3 Explain starting and running characteristics of DC and AC motor
12th (13/12/2021-18/12/2021)	13/12/2021	5 . 4 State Application of : 5.4.1 DC motor
	14/12/2021	5.4.2 3 phase induction motor
	15/12/2021	5.4.3 3 phase synchronous motors
	17/12/2021	5.4.4 Single phase induction, series motor,
13th (20/12/2021-25/12/2021)	20/12/2021	5.4.4.1 universal motor and repulsion motor.
	21/12/2021	**Class Test-3**
	22/12/2021	**6. ELECTRIC TRACTION** 6. 1. Explain system of traction.
	24/12/2021	6. 2. System of Track electrification
14th (27/12/2021-01/01/2022)	27/12/2021	6. 3. Running Characteristics of DC and AC traction motor.
	28/12/2021	6. 4. Explain control of motor

		6.4.1 Tapped field control 6.4.2 Rheostatic control
	29/12/2021	6.4.3 Series parallel control 6.4.4 Multi unit control.
	31/12/2021	6.4.5 Metadyne control 6. 5. Explain Braking of the following types. 6.5.1 Regenerative Braking
15th (03/1/2022-08/01/2022)	03/01/2022	6. 5. Explain Braking of the following types. 6.5.1 Regenerative Braking
	04/01/2022	**Class Test-4**
	05/01/2022	6.5.2 Braking with 1-phase series motor 6.5.3 Magnetic Braking
	07/01/2022	REVISION

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ELECTRICAL ENGG.DEPARTMENT

LESSON PLAN

SEMESTER : 5^{TH} (B)

SESSION – winter-(2021-22)

SUBJECT: UEET

NAME OF FACULTY: KUMUDINI BEHERA