BHUBANANANDA ORISSA SCHOOL OF ENGINEERING, CUTTACK

ELECTRICAL ENGG.DEPARTMENT

LESSON PLAN

SEMESTER : 5^{TH} (C)

SESSION – winter-(2021-22)

SUBJECT: UEET

NAME OF FACULTY: SANJEEB DALAI

Discipline: **Electrical Engg.**	Semester:**5th (C)**	Name of the teaching faculty: **SANJEEB DALAI**
Subject-**UEET**	No. of Days/per week class allotted:**04PERIODS /WEEK** **(MON,WED-1 period each)** **FRI-2 PERIOD**	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(2 PERIOD)	**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.
	08/10/2021(2 PERIOD)	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(2 PERIOD)	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. 1.9 Application of Electrolysis
	27/10/2021	**2. ELECTRICAL HEATING** 2.1. Advantages of electrical heating. 2.2. Explain mode of heat transfer and Stephen's Law
	29/10/2021(2 PERIOD)	2.3. Discuss principle of Resistance heating. 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

	03/11/2021	**Class test 1**
	05/11/2021(2 PERIOD)	2.5. Principle of Induction heating 2.5.1 Working 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.
	10/11/2021	2.6. Principle of dielectric heating and its application. 2.7. Principle of Microwave heating and its application
	12/11/2021(2 PERIOD)	**3. PRINCIPLES OF ARC WELDING** 3.1 Explain principle of arc welding. 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
	17/11/2021	3.4 Types of arc welding. 3.5 Explain principles of resistance welding.
9th (22/11/2021-27/11/2021)	22/11/2021	**Class test 2**
	24/11/2021	3.6 Descriptive study of different resistance welding methods
	26/11/2021(2 PERIOD)	**4. ILLUMINATION** 4 . 1 Nature of Radiation and its spectrum 4 . 2 Terms used in Illuminations. i. Luminous intensity 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
	01/12/2021	4 . 8 Explain Discharge lamps. 4 . 9 State Basic idea about excitation in gas discharge lamps
	03/12/2021(2 PERIOD)	4.10 State constructional factures and operation of Fluorescent lamp. (PL and PLL Lamps) 4.11 Sodium vapor lamps. 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**
	08/12/2021	**5. INDUSTRIAL DRIVES** 5 . 1 State group and individual drive.
	10/12/2021(2 PERIOD)	5 . 2 Method of choice of electric drives. 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
	15/12/2021	5.4.2 3 phase induction motor
	17/12/2021(2 PERIOD)	5.4.3 3 phase synchronous motors 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.
	22/12/2021	**Class Test-3**
	24/12/2021(2 PERIOD)	**6. ELECTRIC TRACTION** 6. 1. Explain system of traction. 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.
		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.
	31/12/2022(2 PERIOD)	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
	05/01/2022	**Class Test-4**
	07/01/2022(2 PERIOD)	6.5.2 Braking with 1-phase series motor 6.5.3 Magnetic Braking