LESSON PLAN FOR ACADEMIC SESSION: 2024-25(Winter-24)

Discipline: Electrical Engineering		Semester : 5th	Name of the Teaching Faculty :PRABHUDATTA PUJAPANDA
Subject : UEET	No. of days / week class allotted		Semester From : 22.08.2024 to 08.11.2024 Nos. of Weeks per semester : 15
Week	Class Day	Chapter	Theory Topics
1ST	1st	Chapter-1 ELECTROLYTIC PROCESS:	1.1. Definition and Basic principle of Electro Deposition
	2nd		1.2. Important terms regarding electrolysis. 1.3. Faradays Laws of Electrolysis
	3rd		1.4. Definitions of current efficiency, Energy efficiency 1.5. Principle of Electro Deposition.
	4th		1.6. Factors affecting the amount of Electro Deposition 1.7. Factors governing the electro deposition.
2ND	1st		1.8. State simple example of extraction of metals 1.9. Application of Electrolysis.
	2nd	Chapter-2 ELECTRICAL HEATING	2.1. Advantages of electrical heating 2.2. Mode of heat transfer and Stephen's Law.
	3rd		2.3. Principle of Resistance heating. (Direct resistance and indirect resistance heating.)
	4th		Continue.....
3RD	1st		2.4. Discuss working principle of direct arc furnace and indirect arc furnace.
	2nd		2.5. Principle of Induction heating. 2.5.1. Working principle of direct core type, vertical core type and indirect core type Induction furnace.
	3rd		2.5.2. Principle of coreless induction furnace and skin effect.
	4th		2.6. Principle of dielectric heating and its application. 2.7. Principle of Microwave heating and its application.
4TH	1st	Chapter-3 PRINCIPLES OF ARC WELDING	3.1. Explain principle of arc welding.
	2nd		3.2. Discuss D. C. & A. C. Arc phenomena.
	3rd		3.3. D.C. & A. C. arc welding plants of single and multi-operation type. 3.4. Types of arc welding.
	4th		3.5. Explain principles of resistance welding. 3.6. Descriptive study of different resistance welding methods. of arc welding.
5TH	1st	Chapter-4 ILLUMINATION	4.1. Nature of Radiation and its spectrum.
	2nd		4.2. Terms used in Illuminations. [Lumen, Luminous intensity, Intensity of illumination, MHCP, MSCP, MHSCP, Solid angle, Brightness, Luminous efficiency.]
	3rd		4.3. Explain the inverse square law and the cosine law 4.4. Explain polar curves
	4th		4.5. Describe light distribution and control. Explain related definitions like maintenance factor and depreciation factors.

6TH	1st		4.6. Design simple lighting schemes and depreciation factor
	2nd		4.7. Constructional feature and working of Filament lamps, effect of variation of voltage on working of filament lamps
	3rd		4.8. Explain Discharge lamps. 4.9. State Basic idea about excitation in gas discharge lamps.
	4th		4.10. State constructional factures and operation of Fluorescent lamp. (PL and PLL Lamps)
7TH	1st		4.11. Sodium vapor lamps. 4.12. High pressure mercury vapor lamps. 4.13. Neon sign lamps.
	2nd		4.14. High lumen output & low consumption fluorescent lamps
	3rd	Chapter-5 INDUSTRIAL DRIVES	5.1. State group and individual drive. 5.2. Method of choice of electric drives
	4th		5.3. Explain starting and running characteristics of DC and AC motor.
8TH	1st		5.4. State Application of: 5.4.1. DC motor. 5.4.2. 3-phase induction motor.
	2nd		5.4.3. 3 phase synchronous motors.
	3rd		5.4.4. Single phase induction, series motor, universal motor and repulsion motor.
	4th	Chapter-6 ELECTRIC TRACTION	6.1. Explain system of traction. 6.2. System of Track electrification.
9TH	1st		6.3. Running Characteristics of DC and AC traction motor.
	2nd		6.4. Explain control of motor: 6.4.1. Tapped field control. 6.4.2. Rheostatic control.
	3rd		6.4.3. Series parallel control. 6.4.4. Multi-unit control. 6.4.5. Metadyne control.
	4th		6.5. Explain Braking of the following types: 6.5.1. Regenerative Braking
	4th		6.5.2. Braking with 1-phase series motor. 6.5.3. Magnetic Braking.

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