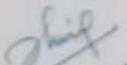


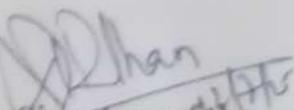
PNS SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRICAL ENGINEERING

Branch: Electrical Engg.	Semester: 5 TH	Name of the Lecturer: Snigdha Dash
Subject: UEET	Classes Allotted in a Week: 5	Duration of Semester: 14.07.2025 - 15.11.2025
Week	Class Day	Theory / Practical Topic
1st	1	ELECTROLYTIC PROCESS: Definition and Basic principle of Electro Deposition
	2	Important terms regarding electrolysis.
	3	Faraday's laws of electrolysis
	4	Definitions of current efficiency, energy efficiency
	5	Principle of Electro Deposition.
2nd	1	Factors affecting the amount of Electro Deposition.
	2	Factors governing the electro deposition
	3	State simple example of extraction of metals.
	4	Application of Electrolysis.
	5	ELECTRICAL HEATING: Advantages of electrical heating.
3rd	1	Mode of heat transfer and Stephen's Law.
	2	Principle of Resistance heating. (Direct resistance and indirect resistance heating.)
	3	Discuss working principle of direct arc furnace
	4	Discuss working principle of indirect arc furnace.
	5	Principle of Induction heating.
4th	1	Working principle of direct core type Induction furnace
	2	Working principle of vertical core type Induction furnace.
	3	Working principle of indirect core type Induction furnace.
	4	Principle of coreless induction furnace
	5	Principle of skin effect.
5th	1	Principle of dielectric heating and its application.
	2	Principle of Microwave heating and its application.
	3	PRINCIPLES OF ARC WELDING: Explain principle of arc welding.
	4	Discuss D. C. & A. C. Arc phenomena
	5	D.C. & A. C. arc welding plants of single and multi-operation type.
6th	1	Types of arc welding
	2	Explain principles of resistance welding
	3	Descriptive study of different resistance welding methods.
	4	ILLUMINATION: Nature of Radiation and its spectrum
	5	Terms used in Illuminations. [Lumen, Luminous intensity, Intensity of illumination, MHCP, MSCP, MHSCP, Solid angle, Brightness, Luminous efficiency.]
7th	1	Explain the inverse square law and the cosine law.
	2	Explain polar curves.
	3	Describe light distribution and control. Explain related definitions like maintenance factor and depreciation factors
	4	Design simple lighting schemes and depreciation factor
	5	constructional feature and working of filament lamps, effect of variation of voltage

8th	1	Explain Discharge lamps
	2	State Basic idea about excitation in gas discharge lamps.
	3	State constructional features and operation of Fluorescent lamp. (PL and PLL Lamps)
	4	Sodium vapor lamps.
	5	High pressure mercury vapor lamps.
9th	1	Neon sign lamps
	2	High lumen output & low consumption fluorescent lamps.
	3	INDUSTRIAL DRIVES: State group and individual drive
	4	Method of choice of electric drives
	5	Explain starting and running characteristics of DC and AC motor
10th	1	State Application of DC motor
	2	State application of 3-phase induction motor
	3	State application of 3 phase synchronous motors
	4	Application of Single phase induction, series motor universal motor ,repulsion motor.
	5	ELECTRIC TRACTION: Explain system of traction.
11th	1	System of Track electrification.
	2	Running Characteristics of DC and AC traction motor
	3	Explain control of motor Tapped field control.
	4	Explain control of motor : Rheostatic control
	5	Explain control of motor : Series parallel control
12th	1	Explain control of motor : Multi-unit control control.
	2	Explain the control of motor: metadyne control
	3	Explain Braking of the following types: Regenerative Braking.
	4	Explain braking with 1 phase series motor
	5	Explain Braking of the magnetic Braking.


Signature of the
Lecturer


Signature of the
H.O.D.


Signature of the
Principal