

# LESSON PLAN

**DEPARTMENT OF ELECTRICAL ENGINEERING, ITT, CHOUDWAR**

**SUBJECT:** UEET

**Periods:** 4 per week

**SEMESTER:** 5TH

**NAME OF FACULTY:** Monalisa Swain

**No. of weeks:** 15

Week	Class Day	Theory / Practical Topics
1 <sup>st</sup>	1 <sup>st</sup>	Definition and Basic principle of Electro Deposition
	2 <sup>nd</sup>	Important terms regarding electrolysis
	3 <sup>rd</sup>	Faradays Laws of Electrolysis
	4 <sup>th</sup>	Definitions of current efficiency, Energy efficiency
2 <sup>nd</sup>	1 <sup>st</sup>	Principle of Electro Deposition
	2 <sup>nd</sup>	Factors affecting the amount of Electro Deposition
	3 <sup>rd</sup>	Factors governing the electro deposition
	4 <sup>th</sup>	State simple example of extraction of metals
3 <sup>rd</sup>	1 <sup>st</sup>	Application of Electrolysis.
	2 <sup>nd</sup>	Advantages of electrical heating
	3 <sup>rd</sup>	Explain mode of heat transfer and Stephen's Law
	4 <sup>th</sup>	Discuss principle of Resistance heating
4 <sup>th</sup>	1 <sup>st</sup>	Direct Resistance heating
	2 <sup>nd</sup>	Indirect Resistance heating.
	3 <sup>rd</sup>	Explain working principle of direct arc furnace and indirect arc furnace
	4 <sup>th</sup>	Principle of Induction heating.
5 <sup>th</sup>	1 <sup>st</sup>	Working principle of direct core type, vertical core type and indirect core type Induction furnace
	2 <sup>nd</sup>	Principle of coreless induction furnace and skin effect.
	3 <sup>rd</sup>	Principle of dielectric heating and its application.
	4 <sup>th</sup>	Principle of Microwave heating and its application.
6 <sup>th</sup>	1 <sup>st</sup>	Explain principle of arc welding.
	2 <sup>nd</sup>	Discuss D. C. & A. C. arc phenomena
	3 <sup>rd</sup>	D.C. & A. C. arc welding plants of single and multi-operation type
	4 <sup>th</sup>	Types of arc welding
7 <sup>th</sup>	1 <sup>st</sup>	Explain principles of resistance welding
	2 <sup>nd</sup>	Descriptive study of different resistance welding methods
	3 <sup>rd</sup>	Nature of Radiation and its spectrum
	4 <sup>th</sup>	Terms used in Illuminations.
8 <sup>th</sup>	1 <sup>st</sup>	Explain the inverse square law and the cosine law
	2 <sup>nd</sup>	Explain polar curves.
	3 <sup>rd</sup>	Describe light distribution and control. Explain related definitions like maintenance factor and depreciation factors
	4 <sup>th</sup>	Design simple lighting schemes and depreciation factor
9 <sup>th</sup>	1 <sup>st</sup>	Constructional feature and working of Filament lamps, effect of variation of voltage on working of filament lamps
	2 <sup>nd</sup>	Explain Discharge lamps.
	3 <sup>rd</sup>	State Basic idea about excitation in gas discharge lamps
	4 <sup>th</sup>	0 State constructional factures and operation of: - Fluorescent lamp. (PL and PLL Lamps)
10 <sup>th</sup>	1 <sup>st</sup>	Sodium vapor lamps

	2 <sup>nd</sup>	High pressure mercury vapour lamps
	3 <sup>rd</sup>	Neon sign lamps
	4 <sup>th</sup>	High lumen output & low consumption fluorescent lamps
11 <sup>th</sup>	1 <sup>st</sup>	State group and individual drive
	2 <sup>nd</sup>	Method of choice of electric drives
	3 <sup>rd</sup>	Explain starting and running characteristics of DC and AC motor
	4 <sup>th</sup>	State Application
12 <sup>th</sup>	1 <sup>st</sup>	Explain system of traction
	2 <sup>nd</sup>	System of Track electrification
	3 <sup>rd</sup>	Running Characteristics of DC and AC traction motor
	4 <sup>th</sup>	Running Characteristics of DC and AC traction motor
13 <sup>th</sup>	1 <sup>st</sup>	Tapped field control
	2 <sup>nd</sup>	Rheostatic control
	3 <sup>rd</sup>	Series parallel control
	4 <sup>th</sup>	Metadyne control
14 <sup>th</sup>	1 <sup>st</sup>	Regenerative Braking
	2 <sup>nd</sup>	Braking with 1-phase series motor
	3 <sup>rd</sup>	Braking with 1-phase series motor
	4 <sup>th</sup>	Magnetic Braking
15 <sup>th</sup>	1 <sup>st</sup>	Magnetic Braking
	2 <sup>nd</sup>	Revision
	3 <sup>rd</sup>	Revision
	4 <sup>th</sup>	Revision