

# GOVT. POLYTECHNIC SAMBALPUR

## LESSON PLAN

Discipline : ELECTRICAL ENGG.	Semester: 5th Sem	Name of the Teaching Faculty : Pritish Kumar Mohanty
Subject : UEET	No. of Days / per week class allotted : 04	Semester From date : 16.08.2023 To Date : 30.11.2023 No. of Weeks : 15
Week	Class Day	Topics
18-8-23 to 22-8-23	1st	<b>Chapter 1 ( ELECTROLYTIC PROCESS )</b> 1.1. Definition and Basic principle of Electro Deposition.
	2nd	1.2. Important terms regarding electrolysis.
	3rd	1.3. Faradays Laws of Electrolysis. 1.4. Definitions of current efficiency, Energy efficiency.
	4th	1.5. Principle of Electro Deposition.
25-8-23 to 1-9-23	1st	1.6. Factors affecting the amount of Electro Deposition.
	2nd	1.7. Factors governing the electro deposition.
	3rd	1.8. State simple example of extraction of metals.
	4th	1.9. Application of Electrolysis.
2-9-23 to 8-9-23	1st	<b>Chapter 2 ( ELECTRICAL HEATING )</b> 2.1. Advantages of electrical heating.
	2nd	2.2. Mode of heat transfer and Stephen's Law.
	3rd	2.3. Principle of Resistance heating. (Direct resistance and indirect resistance heating.)
	4th	2.4. Principle of direct arc furnace and indirect arc furnace. 2.5 Principle of Induction heating.
9-9-23 to 15-9-23	1st	2.5.1. Working principle of direct core type, vertical core type and indirect core type Induction furnace.
	2nd	2.5.2. Principle of coreless induction furnace and skin effect.
	3rd	2.6. Principle of dielectric heating and its application.
	4th	2.7. Principle of Microwave heating and its application.
16-9-23 to 23-9-23	1st	<b>Chapter 3 ( ARC WELDING )</b> 3.1 Principle of Arc Welding
	2nd	3.2. Discuss D. C. & A. C. Arc phenomena.
	3rd	3.3.1 D.C. arc welding plants of single and multi-operation type.
	4th	3.3.2 A.C. arc welding plants of single and multi-operation type.
25-9-23 to 3-10-23	1st	3.4. Types of arc welding.
	2nd	3.5. Explain principles of resistance welding.
	3rd	3.6. Descriptive study of different resistance welding methods.
	4th	3.6. Descriptive study of different resistance welding methods.
6-10-23 to 10-10-23	1st	<b>Chapter 4 ( ILLUMINATION )</b> 4.1. Nature of Radiation and its spectrum.
	2nd	4.2. Terms used in Illumination.
	3rd	4.3. Explain the inverse square law and the cosine law.
	4th	4.4. Explain polar curves.
	1st	4.5. Describe light distribution and control.



13-10-23 to 17-10-23	2nd	4.6. Design simple lighting schemes and depreciation factor.
	3rd	4.7. Constructional feature and working of Filament lamps, effect of variation of voltage on working of filament lamps.
	4th	4.8. Explain Discharge lamps. 4.9. Basic idea about excitation in gas discharge lamps

20-10-23 to 31-10-23	1st	4.10. Constructional features & operation of Fluorescent lamp.
	2nd	4.11. Sodium vapor lamps.
	3rd	4.12. High pressure mercury vapor lamps. 4.13. Neon lamps
	4th	4.14. High lumen output & low consumption fluorescent lamps.

3-11-23 to 7-11-23	1st	<b>Chapter 5 ( INDUSTRIAL DRIVES )</b> 5.1. State group and individual drive.
	2nd	5.2. Method of choice of electric drives.
	3rd	5.3. Explain starting and running characteristics of DC and AC motor.
	4th	5.4. State Application of: 5.4.1 DC motor.

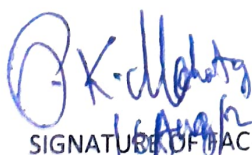
10-11-23 to 14-11-23	1st	5.4.2. 3-phase induction motor.
	2nd	5.4.3. 3 phase synchronous motors.
	3rd	5.4.4. Single phase induction motor.
	4th	5.4.5. Series motor.

17-11-23 to 20-11-23	1st	5.4.6. Universal motor.
	2nd	5.4.7. Repulsion motor.
	3rd	<b>Chapter 6 ( ELECTRIC TRACTION )</b> 6.1. Explain system of traction.
	4th	6.2. System of Track electrification.

21-11-23 to 25-11-23	1st	6.3. Running Characteristics of DC and AC traction motor.
	2nd	6.3. Running Characteristics of DC and AC traction motor.
	3rd	6.4. Explain control of motor:
	4th	6.4.1. Tapped field control.

26-11-23 to 28-11-23	1st	6.4.2. Rheostatic control.
	2nd	6.4.3. Series parallel control.
	3rd	6.4.4. Multi-unit control.
	4th	6.4.5. Metadyne control.

29-11-23 to 30-11-23	1st	6.5. Explain Braking of the following types:
	2nd	6.5.1. Regenerative Braking
	3rd	6.5.2. Braking with 1-phase series motor.
	4th	6.5.3. Magnetic Braking.

  
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