

GOVT. POLYTECHNIC BOLANGIR
LESSON PLAN

Discipline : ELECTRICAL ENGG.	Semester: 5th Sem	Name of the Teaching Faculty : Saiswarup Patel
Subject : UEET	No. of Days / per week class allotted : 04	Semester From date : 01.09.2020 To Date : 31.12.2020 No. of Weesks : 15
Week	Class Day	Topics
1ST SEPT	1st	Chapter 1 (ELECTROLYTIC PROCESS) 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.
2ND SEPT	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.
3RD SEPT	1st	Chapter 2 (ELECTRICAL HEATING) 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.
4TH SEPT	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.
1ST OCT	1st	Chapter 3 (ARC WELDING) 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.
2ND OCT	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.

3RD OCT	1st	Chapter 4 (ILLUMINATION) 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 NOV	1st	4.5. Describe light distribution and control.
	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

2ND NOV	1st	4.10. Constructional factures & 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.

3RD NOV	1st	Chapter 5 (INDUSTRIAL DRIVES) 5.1. Stata 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.

4TH NOV	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.

1ST DEC	1st	5.4.6. Universal motor.
	2nd	5.4.7. Repulsion motor.
	3rd	Chapter 6 (ELECTRIC TRACTION) 6.1. Explain system of traction.
	4th	6.2. System of Track electrification.

2ND DEC	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.

3RD DEC	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.
4TH DEC	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.