

Lesson Plan

Name of Faculty : MR. PARDEEP KUMAR
 Discipline : ELECTRICAL ENGG.
 Semester : 4th
 Subject : UTILISATION OF ELECTRICAL ENERGY
 Lesson Plan Duration : 15 Weeks (From 20-01-2025 to Apr./2025)

Week	Theory	
	Lecture Day	Topic
1st	1	UNIT – I : Illumination Introduction, terms used in illumination, laws of illumination
	2	Indoor and outdoor illumination levels. Discharge lamps
	3	MV and SV lamps. General ideas about time switches
2nd	4	Street I lighting, flood lighting
	5	Decorative lighting
	6	UNIT – II : Electric Heating & Electric Welding : Advantages of electrical heating
3rd	7	Resistance heating, Induction Heating
	8	Dielectric Heating, Electric Welding
	9	Resistanc and Arc welding, electric welding equipments
4th	10	Comparison between A.C & D.C Welding.
	11	UNIT – III : Electrolytic Processes: Need of electro-deposition
	12	Laws of electrolysis, ,
5th	13	process of electro-deposition - clearing
	14	operation, deposition of metals,
	15	polishing and buffing
6th	16	Principle of galvanizing and its applications
	17	Principles of anodizing and its applications
	18	Electroplating of non-conducting materials
7th	19	Electrical circuit used in refrigeration and
	20	Air Conducting and Water Coolers
	21	UNIT – IV: Electric Drives: Electric Drives and Its Parts
8th	22	Advantage of Electric Drives
	23	Types of Electric Drives.

	24	Characteristics of different mechanical loads
9th	25	Types of motor used in industrial drives
	26	Factor affecting selection of motors, Application Electric Drive
	27	Introduction to energy efficient drives
10th	28	UNIT – V: Electrical Traction: Advantage of electric traction
	29	Concept of diesel electric traction system,
	30	systems of electric traction
11th	31	types of services
	32	urban, sub-urban, and main line and their speed-time curves
	33	Electrical Block diagram and accessories of an electric loco motive
12th	34	Different accessories for track electrification such as overhead catenary wire
	35	conductor rail system
	36	current collector-pentagraph
13th	37	Power supply arrangements
	38	Types of motors used for electric traction
	39	Starting and braking of electric locomotives
14th	40	Introduction to EMU
	41	metro railways
	42	Revision unit-5
15th	43	Revision unit-1, Unit-2
	44	Revision unit-3, Unit-4
	45	Revision old question papers