

SAMSKRUTI COLLEGE OF ENGINEERING & TECHNOLOGY

Lesson Plan(2017-18)

Subject : Utilization of electrical energy

NAME OF THE FACULTY: P.JAGADEESH

SL. No.	Name of The Topic	No. of Classes Required	Cumulative number of Periods
Unit - I : Electric Drives			
1	Type of electric drive	1	1
2	Choice of motor	1	2
3	Starting and running characteristics	2	4
4	Dc series ,shunt, ac motor speed control characteristics	1	5
5	Speed control	1	6
6	Temperature rise	1	7
7	Particular application of electric drives	1	8
8	Types of industrial loads ,continuous ,intermittent and variable loads	1	9
9	Problem on temperature rise	1	10
10	Load equalization	1	11
11	Problems	2	13
12	Flywheel mechanism and problems	1	14
Unit –II : Electric Heating and Electric Welding			
14	Advantages and methods of electric heating	2	16
15	Resistance heating	2	18
16	Induction heating	1	19
17	Dielectric heating	1	20
20	Various types of heating techniques	1	21
21	Electric welding, Resistance welding	2	23
22	Arc welding	2	25
23	Various types of arc welding	1	26
24	Electric welding equipment	1	27
25	Comparison between A.C and D.C welding	1	28

27	Problems	1	29	
28	Welding equipment	1	30	
Unit-III : Illumination Fundamentals and Various Illumination Methods				
29	Introduction, terms used in illumination	1	31	
30	Laws of illumination	2	33	
31	Polar curves	1	34	
32	Photometry, photo voltaic cell	1	35	
33	Photoemissive cell,	1	36	
34	Integrating sphere	1	37	
35	Sources of light	1	38	
36	Remedial Classes	2	40	
37	Discharge lamps, MV and SV lamps	2	42	
38	Comparison between tungsten filament lamps and fluorescent tubes	2	44	
39	Basic principles of light control	1	45	
40	Types and design of lighting and flood lighting	1	46	
Unit –IV: Electric Traction – I and Electric Traction – II				
41	System of electric traction and track electrification	2	47	
42	Review of existing traction system in India	2	48	
43	Special features of traction motor	1	49	
44	Methods of electric braking –plugging ,rheostatic braking and regenerative braking	2	50	
45	Mechanics of train movement	2	51	
46	Speed time curves for different services	2	52	
47	Trapezoidal and quadrilateral speed time curves	2	53	
Unit – V : Electric Traction – III				
48	Calculations of tractive effort	1	54	
49	Power specific energy consumption for given run	1	55	
50	Effect of varying acceleration and braking retardation	1	56	
51	Adhesive weight and braking retardation	1	57	
52	Problems on braking, tractiveeffort	2	59	
53	coefficient of adhesion and problems	1	60	