GOVERNMENT POLYTECHNIC ,NAYAGARH

Department Of Electrical Engineering

Semester: 5TH DIPLOMA — Session: 2021-22

Subject: UEET — No Of Period :60 (4p/week)

Branch: Electrical Engineering, — Name of Faculty: Satyabrata Sahoo

Week	Period	Topics to be covered
1st Week	1	Definition and Basic principle of Electro Deposition
	2	Important terms regarding electrolysis, Faradays Laws of Electrolysis.
	3	Definitions of current efficiency, Energy efficiency
	4	Principle of Electro Deposition
2nd Week	5	Factors affecting the amount of Electro Deposition.
	6	Factors governing the electro deposition
	7	State simple example of extraction of metals.
	8	Application of Electrolysis.
3rd Week	9	Advantages of electrical heating
	10	Mode of heat transfer and Stephen's Law
	11	Principle of Resistance heating. (Direct resistance and indirect resistance heating.)
	12	Discuss working principle of direct arc furnace and indirect arc furnace.
4th Week	13	Principle of Induction heating 1) Working principle of direct core type, vertical core type and indirect core type Induction furnace
	14	Principle of Induction heating 2) Principle of coreless induction furnace and skin effect
	15	Principle of dielectric heating and its application
	16	Principle of Microwave heating and its application
5th Week	17	Explain principle of arc welding
	18	Discuss D. C. Arc phenomena
	29	Discuss A. C. Arc phenomena
	20	D.C. arc welding plants of single and multi-operation type
6th Week	21	A. C. arc welding plants of single and multi-operation type
	22	Types of arc welding
	23	Explain principles of resistance welding
	24	Descriptive study of different resistance welding methods
7th Week	25	Nature of Radiation and its spectrum
	26	Terms used in Illuminations
	27	Explain the inverse square law and the cosine law

	28	Explain polar curves
8th Week	29	Describe light distribution and control. Explain related definitions like maintenance factor and depreciation factors
	30	Design simple lighting schemes and depreciation factor
	31	Constructional feature and working of Filament lamps, effect of variation of voltage on working of filament lamps
	32	Explain Discharge lamps
9th Week	33	State Basic idea about excitation in gas discharge lamps.
	34	State constructional factures and operation of Fluorescent lamp. (PL and PLL Lamps)
	35	Sodium vapor lamps
	36	High pressure mercury vapor lamps.
10th Week	37	Neon sign lamps.
	38	High lumen output & low consumption fluorescent lamps.
	39	State group and individual drive
	40	Method of choice of electric drives.,
11th Week	41	State Application of DC motor
	42	State Application of 3-phase induction motor.
	43	State Application of 3 phase synchronous motors
	44	State Application of Single phase induction, series motor
12th Week	45	State Application of universal motor and repulsion motor
	46	Explain system of traction.
	47	System of Track electrification.
	48	Running Characteristics of DC and AC traction motor
13th Week	49	Explain control of motor: Tapped field control.
	50	Rheostatic control
	51	Series parallel control.
	52	Multi-unit control.
14th Week	53	Metadyne control
	54	Explain Braking of the following types: Regenerative Braking.
	55	Braking with 1-phase series motor
	56	Magnetic Braking.
15th week	57	Previous Question Discussion
	58	Previous Question Discussion
	59	Previous Question Discussion
	60	Previous Question Discussion

Satyabrata Sahoo

Signature of Faculty

Signature of HOD