Discipline – Electrical Engg	Semester 5th	NAME OF THE TEACHING FACULTY- SIBANI PANDA, LECT(ELECT.)	
SUB- UEET	No Of Days Per Week Class Alloted- 4 P	SEMESTER FROM 01.08.2023 to 30.11.2023 NO OF WEEK – 15 WEEKS	
WEEK	**CLASS DAY**	**THEORY**	**STATUS**
1st WEEK	1ST day 2nd day 3rd day 4th day	**ELECTROLYTICPROCESS** 1.1. Definition and Basic principle of ElectroDeposition. 1.2. Important terms regardingelectrolysis. 1.3. Faradays Laws ofElectrolysis. 1.4. Definitions of current efficiency, Energyefficiency.	
2nd WEEK	1ST day 2nd day 3rd day 4th day	1.5. Principle of ElectroDeposition. 1.6. Factors affecting the amount of ElectroDeposition. 1.7. Factors governing the electrodeposition. 1.8. State simple example of extraction ofmetals. Application ofElectrolysis.	
3rd WEEK	1ST day 2nd day 3rd day 4th day	**ELECTRICAL HEATING** 2.1. Advantages of electricalheating. 2.2. Mode of heat transfer and Stephen'sLaw. 2.3. Principle of Resistance heating. (Direct resistance and indirect resistanceheating.)	
4th WEEK	1ST day 2nd day 3rd day 4th day	2.4. Discuss working principle of direct arc furnace and indirect arcfurnace. 2.5. Principle of Inductionheating. 2.5.1. Working principle of direct core type, vertical core type and indirect core type Inductionfurnace. 2.5.2. Principle of coreless induction furnace and skineffect. 2.6. Principle of dielectric heating and itsapplication. Principle of Microwave heating and itsapplication	
5th WEEK	1ST day 2nd day 3rd day 4th day	**PRINCIPLE OF ARC WELDING** 3.1. Explain principle of arcwelding. 3.2. Discuss D. C. & A. C. Arc phenomena. 3.3. D.C. & A. C. arc welding plants of single and multi-operationtype.	
6th WEEK	1ST day 2nd day 3rd day 4th day	3.4. Types of arcwelding. 3.5. Explain principles of resistancewelding. Descriptive study of different resistance weldingmethods.	

7th WEEK	1ST day 2nd day 3rd day 4th day	**ILLUMINATION** 4.1. Nature of Radiation and its spectrum. 4.2. Terms used in Illuminations. [Lumen, Luminous intensity, Intensity of illumination, MHCP, MSCP, MHSCP, Solid angle, Brightness, Luminousefficiency.] 4.3. Explain the inverse square law and the cosinelaw. 4.4. Explain polar curves.	
8th WEEK	1ST day 2nd day 3rd day 4th day	4.5 Describe light distribution and control. Explain related definitions like maintenance factor and depreciationfactors. 4.6 Design simple lighting schemes and depreciationfactor. 4.7 ConstructionalfeatureandworkingofFilamentlamps,effectofvariationofvoltage on working of filament lamps	
9th WEEK	1ST day 2nd day 3rd day 4th day	4.8. Explain Dischargelamps. 4.9. State Basic idea about excitation in gas dischargelamps. 4.10. State constructional factures and operation of Fluorescent lamp. (PL and PLL Lamps) 4.11. Sodium vaporlamps. 4.12. High pressure mercury vaporlamps. 4.13. Neon signlamps. High lumen output & low consumption fluorescentlamps	
10th WEEK	1ST day 2nd day 3rd day 4th day 1ST day 2nd day 3rd day 4th day	**INDUSTRIAL DRIVE** 5.1. State group and individualdrive. 5.2. Method of choice of electricdrives. 5.3. Explain starting and running characteristics of DC and ACmotor. 5.4. State Applicationof: 5.4.1. DCmotor. 5.4.2. 3-phase inductionmotor. 5.4.3. 3 phase synchronousmotors.	
12th week	1ST day 2nd day 3rd day 4th day	**5.4.4.**application of Single phase induction, series motor, universal motor and repulsionmotor **ELECTRIC TRACTION** 6.1. Explain system oftraction. 6.2. System of Trackelectrification. 6.3. Running Characteristics of DC and AC tractionmotor.	
13th week	1ST day 2nd day 3rd day 4th day	6.4. Explain control ofmotor: 6.4.1. Tapped fieldcontrol. 6.4.2. Rheostaticcontrol. 6.4.3. Series parallelcontrol.	

14th week	1ST day 2nd day 3rd day 4th day	6.4.4. Multi-unitcontrol. 6.4.5. Metadynecontrol.	
15th week	1ST day 2nd day 3rd day 4th day	6.5. Explain Braking of the followingtypes: 6.5.1. RegenerativeBraking. 6.5.2. Braking with 1-phase seriesmotor 6.5.3. Magnetic Braking.	

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