


Meta, ELECT, MINING	1 <sup>ST</sup>	NAME OF THE TEACHING FACULTY- N C BEHERA, SR. LECT(ELECT.)	
SUB-BASIC ELECTRICAL	No Of Days Per Week Class Alloted-2	SEMESTER FROM 25.10.2022 TO 31.01.2023 NO OF WEEK – 13 WEEKS	
WEEK	CLASS DAY	THEORY	STATUS
1 <sup>ST</sup> WEEK	1 <sup>ST</sup> day 2 <sup>nd</sup> day	1.1 Concept of current flow. 1.2 Concept of source and load. 1.3 State Ohm's law and concept of resistance. 1.4 Relation of V, I & R in series circuit. 1.5 Relation of V, I & R in parallel circuit.	
2 <sup>nd</sup> WEEK	1 <sup>ST</sup> day 2 <sup>nd</sup> day	1.6 Division of current in parallel circuit. 1.7 Effect of power in series & parallel circuit. 1.8 Kirchhoff's Law. 1.9 Simple problems on Kirchhoff's law.	
3 <sup>RD</sup> WEEK	1 <sup>ST</sup> day 2 <sup>nd</sup> day	<b>2. A.C. THEORY</b> 2.1 Generation of alternating EMF. 2.2 Difference between D.C. & A.C. 2.3 Define Amplitude, instantaneous value, cycle, Time period, frequency, phase angle, phase difference.	

  
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4 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day	<p>2.4 State &amp; Explain RMS value, Average value, Amplitude factor &amp; Form factor with Simple problems.</p> <p>2.5 Represent AC values in phasor diagrams.</p> <p>2.6 AC through pure resistance, inductance &amp; capacitance</p>	
5 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day	<p>2.7 AC through RL, RC, RLC series circuits.</p> <p>2.8 Simple problems on RL, RC &amp; RLC series circuits.</p> <p>2.9 Concept of Power and Power factor</p> <p>2.10 Impedance triangle and power triangle</p>	
6 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day	<p><b>3. GENERATION OF ELECTRICAL POWER</b></p> <p>3.1 Give elementary idea on generation of electricity from thermal power station with block diagram</p>	
7 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day	<p><b>3. GENERATION OF ELECTRICAL POWER</b></p> <p>3.1 Give elementary idea on generation of electricity from hydro &amp; nuclear power station with block diagram</p>	
8 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day	<p><b>4. CONVERSION OF ELECTRICAL ENERGY</b> (No operation, Derivation, numerical problems)</p> <p>4.1 Introduction of DC machines.</p> <p>4.2 Main parts of DC machines.</p> <p>4.3 Classification of DC generator</p>	

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9 <sup>TH</sup> WEEK	1 <sup>ST</sup> day (govt holiday) 2 <sup>ND</sup> day	4.4 Classification of DC motor. 4.5 Uses of different types of DC generators & motors. 4.6 Types and uses of single phase induction motors. 4.7 Concept of Lumen 4.8 Different types of Lamps (Filament, Fluorescent, LED bulb) its Construction and Principle. 4.9 Star rating of home appliances (Terminology, Energy efficiency, Star rating Concept)	
10 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day	<b>5. WIRING AND POWER BILLING</b> 5.1 Types of wiring for domestic installations. 5.2 Layout of household electrical wiring (single line diagram showing all the important component in the system). 5.3 List out the basic protective devices used in house hold wiring. 5.4 Calculate energy consumed in a small electrical installation	
11 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day	<b>6. MEASURING INSTRUMENTS</b> 6.1 Introduction to measuring instruments. 6.2 Torques in instruments. 6.3 Different uses of PMMC type of instruments (Ammeter & Voltmeter).	
12 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day	6.4 Different uses of MI type of instruments (Ammeter & Voltmeter). 6.5 Draw the connection diagram of A.C/ D.C Ammeter, voltmeter, energy meter and wattmeter. (Single phase only).	
13 <sup>TH</sup> WEEK	1 <sup>ST</sup> day (govt holiday) 2 <sup>ND</sup> day	REVISION & DOUGHT CLEARING	

12/3/2

29. 10.2022

9. 22/1/22 (2022)