



**Lesson Plan & Work-done Diary for AY:2022-23, EVEN Semester**

Course with Code: Elements of Electrical Engineering / BEEE203				Faculty: Maria Sushma S		Semester & Section: C	
Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
<b>MODULE-1</b>							
1.		Introduction	Chalk and Talk				
2.		Ohm's law and Kirchhoff's laws,	Chalk and Talk				
3.		Problems on KVL	Chalk and Talk				
4.		Problems on KVL	Chalk and Talk				
5.		Analysis of series, parallel Circuits and numericals	Chalk and Talk				
6.		series-parallel circuits excited by independent voltage sources,	Chalk and Talk				
7.		Power and energy	Chalk and Talk				
8.		VTU QP Numericals on above concept	Chalk and Talk				
9.		<b>Electromagnetism:</b> Faraday's Laws of Electromagnetic Induction, Lenz's Law, Flemings rules,	ICT, Chalk and Talk				

10.		statically and dynamically induced EMF;	Chalk and Talk				
11.		concepts of self	Chalk and Talk				
12.		mutual inductance	Chalk and Talk				
13.		Coefficient of Coupling.	Chalk and Talk				
14.		Energy stored in magnetic field. Simple Numerical.	Chalk and Talk				

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<b>MODULE 2</b>							
15.		<b>Single-phase AC circuits:</b> Generation of sinusoidal voltage, frequency of generated voltage,	Chalk and Talk				
16.		Average value, RMS value, form factor and peak factor of sinusoidal voltage and currents.	Chalk and Talk				
17.		Phasor representation of alternating quantities	Chalk and Talk				
18.		Analysis of R, L, C circuits with phasor diagrams,	Chalk and Talk				
19.		Analysis of R-L,R-C circuits with phasor diagrams,	Chalk and Talk				

20.		Analysis of R-L-C circuits with phasor diagrams,	Chalk and Talk				
21.		Real power, reactive power, apparent power, and Power factor.	Chalk and Talk				
22.		Series, Parallel circuits	Chalk and Talk				
23.		Series-Parallel circuits, Simple Numerical	Chalk and Talk				

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<b>MODULE 3</b>							
24.		<b>Three-phase AC circuits:</b> Necessity and advantage of 3-phase system. Generation of 3-phase power.	Chalk and Talk				
25.		Definition of phase sequence. Balanced supply and balanced load.	Chalk and Talk				
26.		Relationship between line and phase values of balanced star and delta connections.	Chalk and Talk				
27.		Power in balanced 3-phase circuits. Measurement of 3-phase power by 2-wattmeter Method .Simple Numerical	Chalk and Talk				

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<b>MODULE 4</b>							
28.		Measuring instruments: construction and working principle of whetstone's bridge, Kelvin's double bridge,	Chalk and Talk				
29.		Megger, Maxwel's bridge for inductance,	Chalk and Talk				
30.		Schering's bridge for capacitance,	Chalk and Talk				
31.		concepts of current transformer and potential transformer. (Only balance equations and Excluding Vector diagram approach)	Chalk and Talk				
32.		Domestic Wiring: Requirements,	ICT				
33.		Types of wiring: casing, capping, Two way and three way control of load	ICT				

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<b>MODULE 5</b>							
34.		<b>Electricity bill:</b> Power rating of household appliances including air conditioners, PCs, laptops, printers, etc.	ICT				
35.		Definition of “unit” used for consumption of electrical energy, two-part electricity tariff,	ICT				
36.		calculation of electricity bill for domestic consumers.	ICT, Chalk and Talk				
37.		<b>Equipment Safety measures:</b> Working principle of Fuse and Miniature circuit breaker (MCB), merits and demerits.	ICT				
38.		<b>Personal safety measures:</b> Electric Shock, Earthing and its types, Safety Precautions to avoid shock,	ICT				
39.		Residual Current Circuit Breaker (RCCB)	ICT				
40.		Earth Leakage Circuit Breaker (ELCB).	ICT				

	<b>Activity</b>	<b>Planned</b>	<b>Actual</b>	<b>Remarks</b>
<b>1</b>	Theory Classes	40		
<b>2</b>	Assignments/Quizzes/ Self study	Assignment-2, Quiz-5		
<b>3</b>	Tutorials/ Extra classes	-		
<b>4</b>	Internal Assessments	33		
<b>5</b>	ICT based Teaching (% of usage in Curriculum)	30%		
<b>Planning</b>			<b>Execution</b>	
<b>Faculty Signature:</b>			<b>Faculty Signature:</b>	
<b>HoD Signature:</b>			<b>HoD Signature:</b>	