Department of Electrical & Electronics Engineering

Lesson Plan & Work-done Diary for AY:2025-26, ODD Semester

Course with Code: Electric Circuit Analysis –BEE302				Faculty: Dr. Shakunthala C			Semester & Section: III	
Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
MODULE-1								
1		Orientation Class : Introduction about the subject, discussion of course module, Lesson Plan, mode of conduction of assessment (CIE,SEE), Prerequisite of the course, application of the course in current trends.	ICT					
2		**Basic Concepts:** Introduction, Active and passive elements, Concept of ideal and practical sources. Concept of dependent and independent sources.	ICT					
3		Source transformation	Chalk & Talk					
4		Analysis of networks by (i) Network reduction method including star – delta transformation derivation.	Chalk & Talk					
5		Numerical on star – delta transformation.	Chalk & Talk					
6		Analysis of networks by (ii) Mesh analysis methods for AC and DC circuits with independent and dependent sources. Concept of Super-Mesh	Chalk & Talk					
7		Analysis of networks by (ii) Node voltage methods for AC and DC circuits with independent and dependent sources. Concept of Super-Node	Chalk & Talk					
8		Numerical on Mesh & Super-Mesh analysis.	Chalk & Talk					

Class No.		Numerical on Node & Super-Node voltage methods. Duality. **Summary of Module-1**	ICT					
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MODULE-3								
10		Module 3a - Resonant Circuits - Introduction, Applications, Series resonant frequency derivation.	**ICT**					
11		Q-factor of series resonant circuit, Frequencies for maximum voltage across L & C. Bandwidth and selectivity of a series resonant circuit	**ICT**					
12		Derivation of RL parallel with C & RL parallel with RC	Chalk & Talk					
13		Derivation of RL parallel with RC	Chalk & Talk					
14		Problems on Series resonant circuit. Problems on Parallel resonant circuit.	ICT					
15		**Transient Analysis:** Transient analysis of RL circuits under DC excitations : Behaviour of circuit elements under switching action (t=0 & t=∞)	Chalk & Talk					
16		Transient analysis of RC circuits under DC excitations: Behaviour of circuit elements under switching action (t=0 & t=∞)	Chalk & Talk					
17		Numerical & VTU QP discussion	Chalk & Talk					

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		MODULE 4						
18		**Laplace Transformation:** Basics of Laplace transformation (LT)	Chalk & Talk					
19		LT of Impulse, LT of Step. LT of Ramp, Sinusoidal signals.	ICT					
20		LT of shifted functions + numerical , Waveform synthesis + numerical	ICT					
21		Initial and Final value theorems	Chalk & Talk					
22		Numerical	ICT					
23		VTU QP discussion	Chalk & Talk					
24		**Summary of Module-4**	ICT					

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Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.
		MODULE 5 & 2						
25		**Two Port networks:** Definition, Open circuit impedance parameter and the evaluation for simple circuits.	Chalk & Talk					
26		Short circuit admittance parameter and the evaluation for simple circuits.	Chalk & Talk					

Class No.		Topics to be covered	TLP Planned		
27		Transmission parameter and the evaluation for simple circuits	Chalk & Talk		
28		Relationships between Z & Y Parameters, Relationships between Z & T Parameters, Relationships between T & Y Parameters.	Chalk & Talk		
29		**Unbalanced Three Phase Systems:** Introduction, Analysis of three phase systems	ICT		
30		Calculation of real and reactive Powers by direct application of mesh analysis.	Chalk & Talk		
31		Calculation of real and reactive Powers by direct application of nodal analysis.	Chalk Talk		
32		VTU QP discussion. **Summary of Module-5**	ICT		
33		**Network Theorems :** Super Position theorem + Numerical	Chalk & Talk		
34		Numerical on Super Position theorem	Chalk & Talk		

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					MODULE 2				
35		Thevenin's theorem + Numerical	Chalk & Talk						
36		Numerical on Thevenin's theorem	Chalk & Talk						
37		Norton's theorem+ Numerical	Chalk & Talk						

38		Maximum power transfer theorem +Numerical	ICT					
39		VTU Numerical on Theorems	Chalk & Talk					
40		**Summary of Module-2.** Summary of VTU Important concepts & topics for Exam point of view.	ICT					

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Lab Session No.	**Date planned (DD/MM)**	**Topics to be covered**	**TLP Planned**	**Class No.**	**Date planned (DD/MM)**	Topics to be covered	**TLP Planned**		**Class No.**
					Lab Sessions				
1		**Cycle-1:** Study of the effect of Open and Short circuits in simple circuits.	Practical Session						1
2		Determination of resonant frequency, bandwidth, and Q of a series circuit.	Practical Session						
3		Determination of resonant frequency, bandwidth, and Q of a parallel circuit.	Practical Session						
4		Verification of maximum Power transfer theorem.	Practical Session						
5		Power factor correction.	Practical Session						
6		**Cycle-2**: Measurement of power in three phase Circuits using two watt meter method.	Practical Session						
7		Verification of Norton's theorem.	Practical Session						
8		Verification of Thevenin's theorem.	Practical Session						
9		Measurement of time constant of an RC circuit.	Practical Session						
10		Verification of Superposition theorem.	Practical Session						

	Activity	Planned	Actual	Remarks
1	Theory Classes	40		
2	Assignments/Quizzes/ Self study	3+3(Quizzes)		
3	Tutorials/ Extra classes			
4	Internal Assessments	3		
5	ICT based Teaching (% of usage in Curriculum)			
6	Laboratory Session	10 Practical Sessions/ batch		

Planning	Execution
Faculty Signature:	Faculty Signature:
HoD Signature:	HoD Signature: