

Discipline: <b>EE</b>		Semester: <b>3rd</b>	Name of the Teaching Faculty: <b>Jyoti Bhaksh Mohapatra</b>	
Subject: <b>Circuits and Network theory</b>		No of Days/Week Class Allotted: <b>4</b>	Semester From date: <b>15.09.22</b> To date: <b>12.01.23</b>	No. of Weeks: <b>15</b>
WEEK	Class Day	Theory Topics		
	1st	Introduction to magnetic circuits, magnetic field force, intensity, unit, flux and induction		
	2nd	Concepts permeability, reluctance and permeance,		
	3rd	principle of duality, list of dual elements, Analogy betw electric and magnetic circuits		
	4th	Magnetization curve of different magnetic materials and B-H curve		
	5th			
	1st	Concept of series and parallel magnetic circuits.		
	2nd	concept of hysteresis loop		
	3rd	some Numericals.		
	4th	concept of self inductance and mutual inductance		
	5th			
	1st	concepts of coherently coupled circuit and mutual impedance.		
	2nd	concept of dot convention in coupled coils and reciprocity of coupled circuits.		
	3rd	Coefficients of coupling.		
	4th	concepts of series and parallel connection of coupled inductors.		
	5th			

WEEK	Class Day	Theory Topics
	1st	Additional examples discussion.
	2nd	some numerical problem.
	3rd	Active, passive, unilateral & bilateral Linear & non linear elements.
	4th	concept of mesh analysis, mesh equations &
	5th	
	1st	Concepts of super mesh D.C. problem
	2nd	concept of nodal analysis, nodal equations
	3rd	Concepts super node analysis D.C. problem.
	4th	Concepts of source transformation technique
	5th	
	1st	some numerical problem.
	2nd	some numerical
	3rd	Star to delta and delta to star transformation
	4th	some numerical problems.
	5th	

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WEEK	Class Day	Theory Topics		
	1st	statement of superposition theorem		
	2nd	solve numerical problem		
	3rd	statement of thevenin's theorem		
	4th	solve numerical problem		
	5th			
	1st	statement of NEWTON'S THEOREM		
	2nd	statement of MAXIMUM POWER TRANSFER THEOREM.		
	3rd	solve numerical problem		
	4th	Introduction to A.C circuits and series and parallel A.C		
	5th	D		
	1st	concept of A.C. through series R-L, R-C & R-L-C.		
	2nd	solution of problem of A.C through R-L, R-C & R-L-C		
	3rd	solution of problem of A.C through R-L, R-C & R-L-C.		
	4th	series Resonance		
	5th			

WEEK	Class Day	Theory Topics
	1st	parallel resonance,
	2nd	some numerical problem
	3rd	class test
	4th	concept of poly-phase system & phase sequence
	5th	
	1st	relation betn phase and 1 line
	2nd	concept of power and power equation
	3rd	some numerical problem
	4th	some numerical problem
	5th	
	1st	class test & question discussion
	2nd	concept of steady state and transient state response of first order circuit
	3rd	transient response of R-L circuit having D.C. excitation
	4th	numerical solving
	5th	



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WEEK	Class Day	Theory Topics		
	1st	concept of open circuits Impedance (Z) parameters and IHS problem.		
	2nd	concept of short circuits Impedance (Y) parameter & IHS problem.		
	3rd	concept of Transmission (ABCD) parameter - and Add IHS problem.		
	4th	concept of hybrid (H) parameter and IHS problem.		
	5th			
	1st	conditions of reciprocity and symmetry in two port parameter & represented		
	2nd	solving numerical		
	3rd	classification of pass Band, stop Band & cutoff frequency		
	4th	classification of filter		
	5th			
	1st	Numerical solving		
	2nd	class test		
	3rd	Discussion of Assignment Question		
	4th	previous sem. Question Discussion.		
	5th			




WEEK	Class Day	Theory Topics
	1st	
	2nd	
	3rd	
	4th	
	5th	
	1st	
	2nd	
	3rd	
	4th	
	5th	
	1st	
	2nd	
	3rd	
	4th	
	5th	