

Discipline: Electrical Engineering	Semester: 3rd	Name of the Teaching Faculty ER. KISHORA KUMAR SASAMAL	
Subject: Circuit and Network theory	No of Days/Week Class Allotted: 4 day	Semester From date: 15/09/22 To date _____	No. of Weeks: _____

WEEK	Class Day	Theory Topics
1st week 15.09.22 to 17.9.22	15.09.22 1st Thursday	Magnetic Circuit: Introduction to magnetic Circuit.
	16.09.22 2nd Friday	Relationships between magnetizing force, intensity mmf and flux.
	17.09.22 3rd Saturday	Permeability, reluctance and permeance Analogy between electric and magnetic Circuit.
	4th	
	5th	
2nd week 19.09.22 to 24.9.22	19.09.22 1st Monday	B-H Curve.
	21.9.22 2nd Wednesday	Series and parallel magnetic Circuit.
	22.9.22 3rd Thursday	Hysteresis loop.
	23.9.22 4th Friday	Coupled Circuits:- Self inductance and mutual inductance.
	5th	
3rd week 26.09.22 to 1.10.22	26.9.22 1st Monday	Conductivity coupled circuit and mutual impedance
	28.9.22 2nd Wednesday	Dot conversion.
	29.9.22 3rd Thursday	Coefficient of coupling.
	30.9.22 4th Friday	Series, Parallel connection of coupled inductor.
	5th	

Theory Topics

4th week 10.10.22 to 15.10.22	10.10.22 1st Monday	Circuit elements and analysis:- Active, passive, unilateral and bilateral, linear and non-linear
	12.10.22 2nd Wednesday	Mesh analysis, mesh equation by inspection
	13.10.22 3rd Thursday	Super mesh analysis.
	14.10.22 4th Friday	Nodal analysis, nodal equation by inspection.
	5th	
5th week 17.10.22 to 22.10.22	17.10.22 1st Monday	Super node analysis.
	19.10.22 2nd Wednesday	Source transformation technique.
	20.10.22 3rd Thursday	Network theorems:- Star to delta transformation.
	21.10.22 4th Friday	Delta to star transformation.
	5th	
6th week 24.10.22 to 29.10.22	24.10.22 1st Monday	Super position theorem.
	26.10.22 2nd Wednesday	Thevenin's theorem.
	27.10.22 3rd Thursday	Norton's theorem.
	28.10.22 4th Friday	Maximum Power Transfer theorem.
	5th	

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Theory Topics

7th week 31.10.22 to 5.11.22	31.10.22 1st Monday	Problem on Super position theorem and Thevenin's theorem.
	2.11.22 2nd Wednesday	Problem on Norton's theorem and maximum power transfer theorem.
	3.11.22 3rd Thursday	AC Circuit and resonance:- Ac through R-L and R-C circuit.
	4.11.22 4th Friday	Ac through R-L-C circuit.
	5th	
8th week 7.11.22 to 12.11.22	7.11.22 1st Monday	Solution of Problems of A.C through R-L, R-C and R-L-C Series Circuit by Complex algebra method.
	9.11.22 2nd Wednesday	Solution of Problems of A.C through R-L, R-C and R-L-C Parallel Circuit & Composite Circuit.
	10.11.22 3rd Thursday	Power factor and Power triangle.
	11.11.22 4th Friday	Reduce expression for active, reactive and apparent power.
	5th	
9th week 14.11.22 to 19.11.22	14.11.22 1st Monday	Derive the resonant frequency of series resonance and parallel resonance circuit.
	16.11.22 2nd Wednesday	Define bandwidth, selectivity and Q-factor in series circuit.
	17.11.22 3rd Thursday	Polyphase circuit: Concept of polyphase system and phase sequence.
	18.11.22 4th Friday	Relation between phase and line quantities in star delta connection.
	5th	

WEEK	Class Day	Theory Topics
10th week 21.11.22 to 26.11.22	21.11.22 1st Monday	Power equation in 3-phase balanced Circuit.
	23.11.22 2nd Wednesday	Some numerical Problems on 3-phase balanced Circuit.
	24.11.22 3rd Thursday	Measurement of 3-phase Power by two-wattmeter method.
	25.11.22 4th Friday	Some numerical Problem on two wattmeter method.
	26.11.22 5th	
11th week 28.11.22 to 3.12.22	28.11.22 1st Monday	Transients : Introduction to steady state and transients.
	30.11.22 2nd Wednesday	Steady state and transients response.
	1.12.22 3rd Thursday	Response of R-L, R-C Circuit under DC Condition.
	2.12.22 4th Friday	Response of R-L-C Circuit under DC Condition.
	3.12.22 5th	
12th week 5.12.22 to 10.12.22	5.12.22 1st Monday	Some numerical Problems on R-L and R-C Circuit under DC Condition.
	7.12.22 2nd Wednesday	Some numerical Problem on R-L-C Circuit under DC Condition.
	8.12.22 3rd Thursday	TWO-Port network: Open Circuit impedance (Z) Parameter.
	9.12.22 4th Friday	Short Circuit impedance (Y) Parameter.
	10.12.22 5th	

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13th week 12.12.22 to 17.12.22	12.12.22 1st Monday	Transmission line Parameter (ABCD) Parameter.
	14.12.22 2nd Wednesday	Hybrid (h) parameter.
	15.12.22 3rd Thursday	Inter relationship of different parameters.
	16.12.22 4th Friday	T and π representations.
	17.12.22 5th	
14th week 19.12.22 to 29.12.22	19.12.22 1st Monday	Solve numerical problem on Z and Y parameter.
	21.12.22 2nd Wednesday	Solve numerical problems on ABCD and h parameters.
	22.12.22 3rd Thursday	Filters: Introduction to filter.
	23.12.22 4th Friday	Classification of pass band, stop band and cut-off frequency.
	29.12.22 5th	
15th week a	1st	Constant-k low pass filter.
	2nd	Constant-k High pass filter.
	3rd	Constant-k Band pass filter.
	4th	Constant-k Band elimination filter.
	5th	