

GANDHI SCHOOL OF ENGINEERING

BHABANDHA, BERHAMPUR

PROPOSED WORK

3rd SEM SUBJECT- Th.2 CIRCUIT THEORY

Name of Faculty- BINAYAK DASH

SL NO. CHAPTER	TOPICS	NO OF PERIODS ASSIGNED BY SCTE&VT	PLANNING DATES	REMARKS
1	CIRCUIT ELEMENTS& ENERGY SOURCES 1.1 Circuit elements (Resistance, Inductance, Capacitance), Scope of network analysis & synthesize 1.2 Voltage Division & Current Division, Energy Sources 1.3 Electric charge, electric current, Electrical energy, Electrical potential, R-L-C parameters, Active& Passive Elements. 1.4 Energy Sources, Current and voltage sources and their transformation & mutual inductance 1.5 Star – Delta transformation	06	1 OCT 2021 To 11 OCT 2021	
2	NETWORK THEOREMS (Applications in dc circuits) 2.1 Nodal & Mesh Analysis of Electrical Circuits with simple problem. 2.2 Thevenin's Theorem, Norton's Theorem, Maximum Power transfer Theorem, Superposition Theorem, Millman Theorem, Reciprocity Theorem-Statement, Explanation &	12	22 OCT 2021 To 15 OCT 2021	

	<p>applications</p> <p>2.3 Solve numerical problems of above.</p>			
3	<p>Power Relation in AC circuits & Transient Response of passive circuits</p> <p>3.1 Definition of frequency, Cycle, Time period, Amplitude, Average value, RMS value, Instantaneous power & Form factor, Apparent power, Reactive power, power Triangle of AC Wave.</p> <p>3.2 Phasor representation of alternating quantities</p> <p>3.3 Single phase Ac circuits-Behaviors of A.C. through pure Resistor, Inductor & Capacitor.</p> <p>3.4 DC Transients-Behaviors of R-L, R-C, R-L-C series circuit & draw the phasor diagram and voltage triangle</p> <p>3.5 Define Time Constant of the above Circuit</p> <p>3.6 Solve numerical simple problems of above Circuit.</p>	12	<p>16 NOV 2021</p> <p>To</p> <p>6 DEC 2021</p>	
4	<p>:RESONANCE AND COUPLED CIRCUITS</p> <p>4.1 Introduction to resonance circuits & Resonance tuned circuit,</p> <p>4.2 Series& Parallel resonance</p> <p>4.3 Expression for series resonance, Condition for Resonance, Frequency of Resonance, Impedance, Current, Voltage, power, Q Factor and Power Factor of Resonance, Bandwidth in term of Q.</p> <p>4.4 Parallel Resonance (RL, RC& RLC)& derive the expression</p> <p>4.5 Comparisons of Series & Parallel resonance&</p>	10	<p>7 DEC 2021</p> <p>To</p> <p>22 DEC 2021</p>	

	applications 4.6 simple problems of above Circuit			
5	LAPLACE TRANSFORM AND ITS APPLICATIONS 5.1 Laplace Transformation, Analysis and derive the equations for circuit parameters of Step response of R-L, R-C & R-L-C 5.2 Analysis and derive the equations for circuit parameters of Impulse response of R-L, RC, R-L-C	08	22 DEC 2021 To 29 DEC 2021	
6	Two Port Network Analysis 6.1 Network elements, ports in Network (One port, two port), 6.2 Network Configurations (T & pie). 6.3 Open circuit (Z-Parameter) & Short Circuit (Y-Parameter) Parameters- Calculate open & short Circuit Parameters for Simple Circuits & its conversion 6.4 h- parameter (hybrid parameter) Representation 6.5 Define T-Network & pie – Network	05	03 JAN 2022 To 07 JAN 2022	
7	FILTERS & ATTENUATORS 7.1 Ideal & Practical filters and its applications, cut off frequency, passband and stop band. 7.2 Classify filters- low pass, high pass, band pass, band stop filters & study their Characteristics. 7.3 Butterworth Filter Design 7.4 Attenuation and Gain, Bel, Decibel & neper and their relations. 7.5 Attenuators & its applications. Classification- T-Type & PI – Type attenuators	07	10 JAN 2022 To 17 JAN 2022	



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