Lesson Plan

Name of Faculty : Poonam
Discipline : BTech ECE
Semester : III
Subject : Network analysis and synthesis
Lesson Plan Duration : 15 weeks
Work Load (Lecture/Practical) per week (in hours): **Lectures 03 hours**.

Week	Theory		Actual Covered
	Lecture Day	**Topic (Including Assignment/Test)**	
1st	1	Introduction to laplace transformation	
	2	Properties of Laplace transformation	
	3	Laplace transform of special signal waveforms Inverse laplace transform	
2nd	4	Use of laplace transform in solving electrical networks	
	5	Problems and solution on laplace transform	
	6	Initial conditions of resistive,inductive and capacitive elements Time domain analysis of simple linear circuits	
3rd	7	Transient and steady state response of RC,RL,RLC Circuit to step signal using laplace transform	
	8	Transient and steady state response of RC,RL,RLC Circuit to ramp signal using laplace transform	
	9	Transient and steady state response of RC,RL,RLC Circuit to impulse signal and sinusoidal using laplace transform	
4th	10	Problems and solutions	
	11	Terminal pairs or Ports	
	12	Network functions for one-port and two-port networks poles and zeros of Network functions	
5th	13	Demultiplexers Restrictions on pole and zero Locations for driving point functions and transfer functions	
	14	Time domain behavior from the pole-zero plot.	
	15	Problems and solution on Time domain behavior from the pole-zero plot, Relationship of two-port variables	
6th	16	short-circuit Admittance parameters, open circuit impedance, parameters	
	17	Transmission parameters, hybrid parameters	
	18	Relationships between parameter sets ,Inter-connection of two port networks.	
7th		----------**Ist Minor Test**----------	
8th	19	Concept of network graph	
	20	Terminology used in network graph	
	21	Relationship between twigs and links ,Properties of tree in a graph	
9th	22	Assignment questions	
	23	Formation of incidence matrix,number of trees in a graph	
	24	Cut set matrix ,Tie set matrix	
10th	25	Formulation of network equilibrium equation	
	26	network analysis using graph theory	
	27	Intoduction to filters,characteristics of filters	
11th	28	Passive filter:HPF	
	29	LPF	
	30	BPF ,BSF	
12th	31	Introduction to m derived filters	
	32	Introduction to active filters	
	33	Concept and significance of positive real functions	
13th	34	Concept of network synthesis	
	35	Driving point immittance function structure of RC Network	
	36	Driving point immittance function structure of RL Network	
14th		----------**2nd Minor Test**----------	
15th	37	Foster form of RCnetwork	
	38	CAUER form of RCnetwork	
	39	CAUER form of RCnetwork	