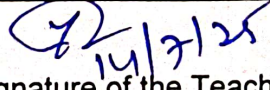


GOVT. POLYTECHNIC KENDRAPARA
LESSON PLAN
Session(2025-2026)

Discipline: Electronics & Telecommunication Engineering	Semester: 3rd Winter-2025	Name of the Faculty: JOGESWAR NAIK (LECTURER STAGE-II)
Subject: TH:1- ELECTRIC CIRCUITS & NETWORKS	No. of Days/week: 03	Start Date: 14/07/2025 End Date: 15/11/2025 No. of Week: 15

SL NO	Week/Month	Class Day	Theory Topics
1	1st week (14th July to 19th July 2025)	1st	Network Theorems in DC Circuits 1.1 Node Analysis of Electrical Circuits with simple problem.
		2nd	1.1 Mesh Analysis of Electrical Circuits with simple problem.
		3rd	1.2 Thevenin's Theorem, Norton's Theorem
2	2nd week (21th July to 25th July 2025)	1st	1.2 Maximum Power transfer Theorem, Superposition Theorem, Millman Theorem
		2nd	1.2 Reciprocity Theorem-Statement, Explanation & applications
		3rd	1.3 Simple numerical problems on above.
3	3rd week (28th July to 02nd Aug 2025)	1st	A. C. Fundamentals & Sinusoidal Steady State Analysis: 2.1 Definitions & explanation of Active & Passive elements.
		2nd	2.2 Concept of complex impedance, Rectangular & polar form. Simple
		3dr	2.3 Idea on Apparent, real, and active power.
4	4th week (04th Aug to 8th Aug 2025)	1st	2.4 Sinusoidal response of a series R-L, R-C circuit
		2nd	2.4 Sinusoidal response of a series R-L-C circuit
		3dr	2.5 Sinusoidal response of a parallel R-L, R-C circuit
5	5th week (11th Aug to 16th Aug 2025)	1st	2.5 Sinusoidal response of a parallel R-L-C circuit
		2nd	Resonance: 3.1 Introduction to resonance circuits & Resonance tuned circuit
		3rd	3.2 Series & Parallel resonance
6	6th week (18th Aug to 26th Aug 2025)	1st	3.3 Expression for series resonance, Condition for Resonance, Frequency of Resonance
		2nd	3.3 Expression for series resonance, Condition for Resonance, Frequency of Resonance, Impedance
		3rd	3.3 Expression for Current, Voltage, power, Q Factor and Power Factor of Resonance
7	7th week (29th Aug to 06th Sept 2025)	1st	3.3 Expression for Bandwidth in term of Q. Voltage Magnification, Acceptor Circuit.
		2nd	3.4 Parallel Resonance Condition for Resonance, Frequency of Resonance, Impedance
		3rd	3.4 Parallel Resonance Condition for Current, Voltage, power, Q Factor and Power Factor of Resonance
8	8th week (08st Sept to 12th Sept 2025)	1st	3.4 Parallel Resonance Condition for Bandwidth of resonant circuit / Tank circuit Current magnification, Rejector Circuit
		2nd	3.5 Comparisons of Series & Parallel resonance & applications
		3rd	3.6 Simple problems on above Circuits

9	9th week (15th Sept to 20th Sept 2025)	1st	Passive Filter: 4.1 Idea of Passive & Active Filter, Their relative advantages and disadvantages
		2nd	4.2 Idea of Fourier Series & frequency spectrum. (concept only)
		3rd	5.3 Explanation of Laplace Transform theorems like Differential, integral, Time displacement, initial value & final value
10	10th week (22nd Sept to 26th Sept 2025)	1st	4.3 Construction, Principle of operation, Characteristics of Low pass, High pass, Band pass & Band stop filter.
		2nd	4.4 Design of Low pass filter & High pass filter.
		3rd	4.5 Numerical problems on the above
11	11th week (3rd oct to 10th oct 2025)	1st	4.6 Composite filter (concept only).
		2nd	Laplace transform and its applications 5.1 Definition & properties of Laplace Transform (LT)
		3rd	5.2 LT of unit step, impulse, ramp, exponential, sine, cosine, pulse, impulse, Dirac delta function.
12	12th week (13th oct to 18th oct 2025)	1st	5.3 Explanation of Laplace Transform theorems like Differential, integral, Time displacement, initial value & final value
		2nd	5.4 Inverse Laplace Transformation. Simple problem
		3rd	5.5 Application of Laplace transformation in circuit theory
13	13th week (20th oct to 31th oct 2025)	1st	Two Port Network: 6.1 Idea on Linear & Non linear networks, Unilateral & Bilateral networks
		2nd	6.2 Explanation of Z parameter (Open Circuit Impedance Parameter)
		3rd	6.3 Explanation of Y parameter (Short Circuit Admittance Parameter)
14	14th week (01st Nov to 07th Nov)	1st	6.4 Explanation of h-parameter (Hybrid Parameter)
		2nd	6.5 Interrelation of above parameters
		3rd	6.7 Inter Connection of Two Port Network
15	15th week (10th Nov to 15th Nov)	1st	6.8 Simple problem on above parameters.
		2nd	6.8 Simple problem on above parameters.
		3rd	6.8 Simple problem on above parameters.


 Signature of the Teacher