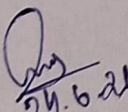


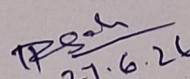


LESSON PLAN

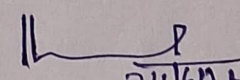
DISCIPLINE:- ELECTRICAL ENGINEERING	SEMESTER:- 3 <sup>rd</sup>	NAME OF THE TEACHING FACULTY: SUDIPTA KUMAR DAS
SUBJECT TH:1- ELECTRIC CIRCUITS & NETWORKS	NO. OF DAYS PER WEEK CLASS ALLOTTED:- 3	SEMESTER FROM DATE:- 01-07-2026 TO DATE :-05 - 11 -2026  NO.OF.WEEK: 15
Week	Class day	Theory
1 <sup>st</sup>	1 <sup>st</sup>	UNIT I: <u>NETWORK THEOREMS IN DC CIRCUITS:</u>  1.1 Node & Mesh Analysis of Electrical Circuits with simple problem.
	2 <sup>nd</sup>	1.2 Thevenin's Theorem, Norton's Theorem, Maximum Power transfer Theorem, Superposition Theorem, Millman Theorem, Reciprocity Theorem-Statement, Explanation & applications
	3 <sup>rd</sup>	1.2 Thevenin's Theorem, Norton's Theorem, Maximum Power transfer Theorem, Superposition Theorem, Millman Theorem, Reciprocity Theorem-Statement, Explanation & applications
2 <sup>nd</sup>	1 <sup>st</sup>	1.3 Simple numerical problems on above
	2 <sup>nd</sup>	1.3 Simple numerical problems on above
	3 <sup>rd</sup>	UNIT II: <u>A. C. FUNDAMENTALS &amp; SINUSOIDAL STEADY STATE ANALYSIS:</u>  2.1 Definitions & explanation of Active & Passive elements.
3 <sup>rd</sup>	1 <sup>st</sup>	2.2 Concept of complex impedance, Rectangular & polar form. Simple problems
	2 <sup>nd</sup>	2.2 Concept of complex impedance, Rectangular & polar form. Simple problems
	3 <sup>rd</sup>	2.3 Idea on Apparent, real, and active power.
4 <sup>th</sup>	1 <sup>st</sup>	2.4 Sinusoidal response of a series R-L, R-C, R-L-C circuit
	2 <sup>nd</sup>	2.4 Sinusoidal response of a series R-L, R-C, R-L-C circuit
	3 <sup>rd</sup>	2.5 Sinusoidal response of a parallel R-L, R-C, R-L-C circuit
5 <sup>th</sup>	1 <sup>st</sup>	2.5 Sinusoidal response of a parallel R-L, R-C, R-L-C circuit
	2 <sup>nd</sup>	UNIT III: <u>RESONANCE:</u>  3.1 Introduction to resonance circuits & Resonance tuned circuit
	3 <sup>rd</sup>	3.2 Series & Parallel resonance
6 <sup>th</sup>	1 <sup>st</sup>	3.3 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. Voltage Magnification, Acceptor Circuit.
	2 <sup>nd</sup>	3.3 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. Voltage Magnification, Acceptor Circuit.
	3 <sup>rd</sup>	3.4 Parallel Resonance Condition for Resonance, Frequency of Resonance, Impedance, Current, Voltage, power, Q Factor and Power Factor of Resonance, Bandwidth of resonant circuit / Tank circuit Current magnification, Rejector Circuit,
7 <sup>th</sup>	1 <sup>st</sup>	3.4 Parallel Resonance Condition for Resonance, Frequency of Resonance, Impedance, Current, Voltage, power, Q Factor and Power Factor of Resonance, Bandwidth of resonant circuit / Tank circuit Current magnification, Rejector Circuit,
	2 <sup>nd</sup>	3.5 Comparisons of Series & Parallel resonance & applications

	3 <sup>rd</sup>	3.6 Simple problems on above Circuits
8 <sup>th</sup>	1 <sup>st</sup>	UNIT IV: <u>PASSIVE FILTER:</u>  4.1 Idea of Passive & Active Filter, Their relative advantages and disadvantages
	2 <sup>nd</sup>	4.2 Idea of Fourier Series & frequency spectrum. ( concept only)
	3 <sup>rd</sup>	4.3 Construction, Principle of operation, Characteristics of Low pass, High pass, Band pass & Band stop filter.
9 <sup>th</sup>	1 <sup>st</sup>	4.3 Construction, Principle of operation, Characteristics of Low pass, High pass, Band pass & Band stop filter.
	2 <sup>nd</sup>	4.4 Design of Low pass filter & High pass filter.
	3 <sup>rd</sup>	4.5 Numerical problems on the above
10 <sup>th</sup>	1 <sup>st</sup>	4.6 Composite filter (concept only).
	2 <sup>nd</sup>	4.6 Composite filter (concept only).
	3 <sup>rd</sup>	UNIT V: <u>LAPLACE TRANSFORM AND ITS APPLICATIONS:</u>  5.1 Definition & properties of Laplace Transform (LT)
11 <sup>th</sup>	1 <sup>st</sup>	5.2 LT of unit step, impulse, ramp, exponential, sine, cosine, pulse, impulse, Dirac delta function
	2 <sup>nd</sup>	5.2 LT of unit step, impulse, ramp, exponential, sine, cosine, pulse, impulse, Dirac delta function
	3 <sup>rd</sup>	5.3 Explanation of Laplace Transform theorems like Differential, integral, Time displacement, initial value & final value
12 <sup>th</sup>	1 <sup>st</sup>	5.3 Explanation of Laplace Transform theorems like Differential, integral, Time displacement, initial value & final value
	2 <sup>nd</sup>	5.4 Inverse Laplace Transformation. Simple problem
	3 <sup>rd</sup>	5.5 Application of Laplace transformation in circuit theory
13 <sup>th</sup>	1 <sup>st</sup>	UNIT VI: <u>TWO PORT NETWORK:</u>  6.1 Idea on Linear & Non linear networks, Unilateral & Bilateral networks
	2 <sup>nd</sup>	6.1 Idea on Linear & Non linear networks, Unilateral & Bilateral networks
	3 <sup>rd</sup>	6.1 Idea on Linear & Non linear networks, Unilateral & Bilateral networks
14 <sup>th</sup>	1 <sup>st</sup>	6.2 Explanation of Z parameter ( Open Circuit Impedance Parameter)
	2 <sup>nd</sup>	6.3 Explanation of Y parameter ( Short Circuit Admittance Parameter)
	3 <sup>rd</sup>	6.4 Explanation of h-parameter ( Hybrid Parameter)
15 <sup>th</sup>	1 <sup>st</sup>	6.5 Interrelation of above parameters
	2 <sup>nd</sup>	6.6 Inter Connection of Two Port Network
	3 <sup>rd</sup>	6.7 Simple problem on above parameters.

  
24.6.26  
Signature of faculty

  
27.6.26  
Signature of sr lecturer

Head of Dept. (HOD)  
Electrical & ETC F.  
G. E.T. (POLY), . . . . .

  
27.6.26  
Signature of principal

Principal  
GIET (Polytechnic)  
Jagatpur, Cuttack