UTKALMANI GOPABANDHU INSTITUTE OF

ENGINEERING, ROURKELA



LESSON PLAN

SESSION: 2022-2023

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

SUBJECT CODE: Th.2

NAME OF THE SUBJECT: CIRCUIT THEORY

BRANCH: ELECTRONICS & TELECOMMUNICATION ENGG.

SEMESTER: DIPLOMA 3rd SEM

NUMBER OF CLASSES ALLOTED PER WEEK : 4

TOTAL PERIODS ALLOTED TO THE SUBJECT ACCORDING TO SCTE & VT: 60

NAME OF THE FACULTY: KAMALAKANTA NATH



LESSON PLAN

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

SUBJECT CODE:	Th.2
SUBJECT NAME:	CIRCUIT THEORY
BRANCH:	ELECTRONICS & TELECOMMUNICATION
SEMESTER:	DIPLOMA 3 rd SEM
PERIODS PER WEEK:	4
NAME OF THE FACULTY:	KAMALAKANTA NATH

NO OF CLASSES ALLOTTED PER WEEK: 4(15/09/2022 to 22/12/2022)

Week/Date	Lecture	Topic to be covered	Remarks
1 st week 15/09/2022	1 st	UNIT-1: CIRCUIT ELEMENTS&	
		ENERGY SOURCES	
17/09/2022		Introduction to circuit theory	
17/09/2022	2 nd	Resistance, inductance and capacitance theory	
2 nd week 19/09/2022 To 24/09/2022	1 st	Voltage division and current division rule	
	2 nd	Active and passive element	
	3 rd	Energy source and transformation	
	4 th	Star-delta transformation	
3 rd week 26/09/2022 To 01/10/2022	1 st	Nodal and mesh analysis	
	2 nd	Unit-2: NETWORK THEOREMS	
		Thevenin's theorem	
	3 rd	Norton's theorem	
	4 th	Maximum power transfer theorem	



DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

SUBJECT CODE:	Th.2
SUBJECT NAME:	CIRCUIT THEORY
BRANCH:	ELECTRONICS & TELECOMMUNICATION
SEMESTER:	DIPLOMA 3 rd SEM
PERIODS PER WEEK:	4
NAME OF THE FACULTY:	KAMALAKANTA NATH

NO OF CLASSES ALLOTTED PER WEEK: 4(15/09/2022 to 22/12/2022)

4 th week 03/10/2022 To 08/10/2022	$ \begin{array}{c} 1^{\text{st}} \\ 2^{\text{nd}} \\ 3^{\text{rd}} \\ 4^{\text{th}} \end{array} $		03/10/2022 TO 08/10/2022(durga puja holidays)Need four extra classes for adjustment
5 th week	1 st	Super position theorem	
10/10/2022	2 nd	Millman's theorem	
10 15/10/2022	3 rd	Peciprocity theorem	
	4 th	Examples of theorem	
6 th week 17/10/2022 To 22/10/2022	1 st	UNIT-3: POWER RELATION IN AC CIRCUITS & TRANSIENT RESPONSE OF PASSIVE CIRCUITS Ac signal and dc signal parameter	
	2 nd	Power triangle	
	3 rd	Ac through pure resistor]
	4 th	Ac through pure inductor]



DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

SUBJECT CODE:	Th.2
SUBJECT NAME:	CIRCUIT THEORY
BRANCH:	ELECTRONICS & TELECOMMUNICATION
SEMESTER:	DIPLOMA 3 rd SEM
PERIODS PER WEEK:	4
NAME OF THE FACULTY:	KAMALAKANTA NATH

NO OF CLASSES ALLOTTED PER WEEK: 4(15/09/2022 to 22/12/2022)

Week/Date	Lecture	<u>Topic to be covered</u>	Remarks
7 th week 24/10/2022 To	1 st	Ac through pure capacitor	24/10/2022(holiday
	2 nd	Transient behavior of RL, RC ,RLC circuit)Need one extra
29/10/2022	3 rd	Time constant of ac circuit	
	4 th	Problems of RLC circuit	
8 th week 31/10/2022 To 05/11/2022	1 st	Resonance circuit introduction	
	2 nd	Series and parallel resonant circuit	
	3 rd	Factors of series resonance circuit	
	4 th	Factors of parallel resonance circuit	
9 th week 07/11/2022 To 12/11/2022	1 st	Q factor, power factor calculation	08/11/2022(holiday
	2 nd	Comparison between series and parallel resonance circuit)Need one extra class for adjustment
	3 rd	Examples of series resonance circuit	,
	4 th	Examples of parallel resonance circuit	



DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

SUBJECT CODE:	Th.2
SUBJECT NAME:	CIRCUIT THEORY
BRANCH:	ELECTRONICS & TELECOMMUNICATION
SEMESTER:	DIPLOMA 3 rd SEM
PERIODS PER WEEK:	4
NAME OF THE FACULTY:	KAMALAKANTA NATH
NO OF CLASSES ALLOTTED PER	WEEK: 4(15/09/2022 to 22/12/2022)

Week/Date	Lecture	Topic to be covered	Remarks
10 th week	1 st	Unit-4: RESONANCE AND	
14/11/2022		COUPLED CIRCUITS	
To		Laplace transformation	
19/11/2022	2 nd	Internal assessment	
	3 rd	Step response of RL,RC,RLC circuit	
	4 th	Impulse response of RL,RC,RLC circuit	
11 th week	1 st	Examples of step response	
21/11/2022 To	2 nd	Examples of impulse response	
26/11/2022	3 rd	UNIT-6: TWO PORT NETWORK	
		ANALYSIS	
		Network element and port introduction	
	4 th	Network configuration	
12 th week	1 st	Z parameter .Y parameter	
28/11/2022	2 nd	H parameter, ABCD parameter	
To	3 rd	T network and Pi network	
03/12//2022	4 th	Unit-7: FILTERS&	
		ATTENUATORS	
		Introduction to filter	
13 th week	1 st	Classification of filter	
05/12/2022	2 nd	LPF design and characteristics	
10/12//2022	3 rd	HPF design and characteristics	
10/12//2022	4 th	BPF design and characteristics	
14th week	1 st	BSF design and characteristics	
	2 nd	Butterworth filter design	
12/12/2022	3 rd	Attenuation, bel, neper, relationship	
17/12/2022	4 th	Attenuator and it's design	
15 th Week	1 st	Classification of T & Pi type attenuator.	Classes will be
10/12/2022	2 nd	VST	continued up to
19/12/2022 to			$\frac{1}{22}/12/2022$ as por
24/12/2022			22/12/2022 as per
			academic calendar