

## LESSON PLAN

<b>DISCIPLINE:</b> Electronics and Telecommunication Engineering	<b>SEMESTER:</b> 4 <sup>th</sup>	<b>NAME OF THE TEACHING FACULTY:</b> Er. Pratikshya Samantaray
<b>SUBJECT:</b> Th. 4 - Analog Electronics & Linear IC	<b>NO. OF DAYS/ PERIODS PER WEEK CLASS ALLOTTED:</b> 5	Semester From Date: <b>13.02.2023</b> <b>To Date: 23.05.2023</b> No. of Weeks: <b>15</b>

WEEK	PERIOD	UNIT/ CHAPTER	TOPIC TO BE COVERED
1st	1st	Diode, transistors and circuits	Introduction of pn junction diode
	2nd		Symbol, p and n type semi-conductor, working principles of pn junction diode
	3rd		voltage and current characteristics of pn junction diode
	4th		Zener and Avalanche breakdown diodes
	5th		Definition of rectifier. Rectifier classification.
2nd	1st	Full-wave Centre-tapped and bridge rectifier	Full-wave Centre-tapped and bridge rectifier
	2nd		Transistors circuits
	3rd		Different connections of transistor circuits
	4th		Transistor biasing
	5th		RC coupled amplifiers
3rd	1st	Audio power amplifiers	concept of voltage amplifier
	2nd		concept of power amplifier
	3rd		Difference between voltage and power amplifier
	4th		Types of power amplifiers
	5th		Class A and Class B power amplifiers
4th	1st	Class C and Class D power amplifiers	Class C and Class D power amplifiers
	2nd		Class AB power amplifiers
	3rd		Push-Pull power amplifier
	4th	Field effect transistor	Introduction of Field Effect Transistor
	5th		Difference between FET and BJT

5th	1st		Types of FET	
	2nd		Working principle of JFET	
	3rd		N-channel and P-channel JFET	
	4th		Concept of MOSFET	
	5th		Types of MOSFET	
6th	1st		Construction of MOSFET	
	2nd		Working principle of MOSFET	
	3rd		CMOS, LDMOS	
	4th		Feedback amplifiers and oscillator	Define feedback amplifier
	5th			Negative feedback with block diagram
7th	1st	Types of positive and negative amplifier		
	2nd	Voltage series and voltage shunt feedback		
	3rd	current series and current shunt feedback		
	4th	sine wave oscillator and barkhausen criteria		
	5th	Hartley, Colpitt's and RC phase shift oscillator		
8th	1st	tuned and crystal oscillator		
	2nd	Tuned amplifier	Tuned amplifier describe	
8th	3rd	Tuned amplifier and Wave shaping circuits	Parallel resonance circuit	
	4th		Double tuned circuit	
	5th		Different types of Non-linear circuit	
9th	1st		Clippers and Clamper circuit	
	2nd		Positive and Negative clampers circuits	
	3rd		Different types of clamper ckts	
	4th	working principles of astable and mono stable multivibrator		
	5th	working principles of bistable multivibrator		
10th	1st	Wave shaping circuits	RC circuits	
	2nd		Parallel resonance circuit	
	3rd		Revision the lesson	

	4th	Operational amplifier circuits and feedback configuration	Differential amplifier and configuration
	5th		Block diagram of op-amp, input offset voltage, slew rate
11th	1st		inverting and non-inverting amplifier
	2nd		CMRR and its electric characters
	3rd		types of integrated circuit
	4th		open loop configuration
	5th		circuit diagram of voltage series feedback
12th	1st		derive the close loop voltage gain
	2nd		gain feedback circuit input resistance
	3rd		close loop voltage gain
	4th		output resistance and bandwidth
	5th	voltage shunt feedback amplifier	
13th	1st	output offset voltage with feedback	
	2nd	revision	
	3rd	Application of OPAMP, Timer circuits and IC voltage regulator	Discuss the summing scaling of inverter and non-inverter amplifier
	4th		DC and AC amplifier using Op-Amp
	5th		integrator and differentiator using op amp
14th	1st		active filter
	2nd		zero crossing detector
	3rd	IC555 timer	
	4th	IC565 PLL and application	
	5th	working of current to voltage convertor	
15th	1st	working of voltage to frequency using op-amp	
	2nd	78XX and 79XX	
	3rd	LM317	
	4th	LM723	
	5th	LM317	