

## Lesson Plan

**Name of Faculty** : Dr. Suman Rani, Guest Faculty of ECE  
**Discipline** : Computer Science Engg.  
**Semester** : 3<sup>rd</sup> (odd)  
**Subject** : Analog Electronics Circuits (ESC/5-T)

Week	Theory		Topic Covered Date and Remarks		
	Lecture Day	Topic (Including Assignment/Test)	Date	HOD	Director-Principal
1 <sup>st</sup>	1	<b>Semi-Conductors and Diodes:</b> Introduction, Insulators, semiconductors and metals			
	2	Mobility and conductivity,			
2 <sup>nd</sup>	3	Intrinsic and extrinsic semiconductors, Charge density			
	4	PN junction diode- Characteristics and analysis			
3 <sup>rd</sup>	5	Rectifiers: Half wave rectifier,			
	6	Full wave rectifier, bridge rectifier and their analysis,			
4 <sup>th</sup>	7	Types of diodes- Zener Diode,			
	8	LED, varactor diode.			
5 <sup>th</sup>	9	<b>Transistors:</b> Construction and characteristics of BJT, Transistor configuration: CB, CE, CC configuration,			
	10	Transistor biasing and bias stabilization: Operating point, Stability factor, Analysis of fixed bias			
6 <sup>th</sup>	11	collector to base bias, Emitter resistance bias circuit			
	12	Self-bias circuit. Numerical on Biasing			
7 <sup>th</sup>	13	<b>Oscillators:</b> Introduction, Types of Oscillators, Barkhausen criterion, Hartley oscillator,			
	14	RC-phase shift oscillator, Wein bridge oscillator.			
8 <sup>th</sup>	15	Regulated Power Supplies: Series and shunt voltage regulators,			
	16	three terminal fixed IC voltage regulator (78xx/79xx)			
9 <sup>th</sup>	17	Adjustable voltage regulator (LM 317), SMPS.			
	18	Colpitt oscillator,			
10 <sup>th</sup>	19	<b>Op-Amp:</b> Block diagram ,Op-Amp equivalent circuit and its analysis			
	20	Non-Inverting, Inverting op-amp			
11 <sup>th</sup>	21	OP-AMP characteristics,			
	22	integrator , Op-amp as differentiator			
12 <sup>th</sup>	23	Op-amp as summing amplifier. Numerical on OP -Amp			
	23	Op-Amp Detailed applications			
13 <sup>th</sup>	24	Unit 1 revision & MCQ based on unit 1			
	25	Unit 2 revision & MCQ based on unit 2			
14 <sup>th</sup>	26	Unit 3 revision & MCQ based on unit 3			
	27	Unit 4 revision & MCQ based on unit 4			
15 <sup>th</sup>	28	Previous year paper discussion			
	29	Previous year paper discussion			