

**Govt. Polytechnic Panchkula**  
**Electrical Engineering Department**  
**Lesson Plan (for odd semester)**

Name of Faculty		Smt. Suchet Kumari		
Discipline		Electrical Engineering		
Semester		3 <sup>rd</sup>		
Subject		Electronics-II		
Lesson Plan Duration		From October 2021		
Workload (Theory + Practical) Per Week		[03 + 02] Group 1 & 2		
Week	Day	Theory Topic/ Assignment/ Test	No.	Practical
1 <sup>st</sup>	1	Unit:1 Transistor Audio Power Amplifier	1	To study the effect of coupling capacitor on lower cut off frequency and upper cut off frequency by plotting frequency response curve of a two stage RC coupled amplifier
	2	Difference between voltage and power amplifier		
	3	Terms in Power Amplifier, collector efficiency, distortion and dissipation capability		
2 <sup>nd</sup>	1	Classification of power amplifier class A, B and C	2	To measure (a) optimum load (b) output power (c) signal handling capacity of a push-pull amplifier
	2	Class A single-ended power amplifier, its working and collector efficiency Impedance matching in a power amplifier using transformer		
	3	Heat sinks in power amplifiers, Push-pull amplifier: circuit details working and advantages		
3 <sup>rd</sup>	1	Principles of the working of complementary symmetry push-pull amplifier	3	To measure (a) voltage gain (b) input and output impedance for an emitter follower circuit
	2	Revision/Assignment		
	3	Quiz		
4 <sup>th</sup>	1	Unit-2 Introduction to tuned voltage amplifier	4	Practical Quiz / Revision
	2	Series and parallel resonance, Single and double tuned voltage amplifiers		
	3	Frequency response of tuned voltage amplifiers, Applications of tuned voltage amplifiers		
5 <sup>th</sup>	1	Revision/Assignment	5	To measure frequency generation in (a) Hartley (b) R-C Phase Shift oscillator
	2	Class test		
	3	Unit3: Feedback in Amplifiers positive and negative feedback and their need		
6 <sup>th</sup>	1	Voltage gain of an amplifier with negative feedback $A = A/(1+\beta A)$	6	Practical Quiz / Revision
	2	Effect of negative feedback on voltage gain, stability, distortion, band width		
	3	Output and input impedance of an amplifier		

7 <sup>th</sup>	1	Typical feedback circuits	7	To observe the differentiated and integrated square wave on a CRO for different values of R-C time constant
	2	Effect of removing the emitter by-pass capacitor on a CE transistor amplifier		
	3	Emitter follower and its applications		
8 <sup>th</sup>	1	Revision/Assignment		Clipping of both portion of sine-
	2	Unit4: Sinusoidal oscillators amplifier positive		

		feedback	8	wave using: diode and dc source/ Zener diodes
	3	Difference between an oscillator and an alternator		
9 <sup>th</sup>	1	Essentials of an oscillator, Circuit details and working of LC oscillators	9	Clamping a sine-wave to: Negative dc voltage Positive dc voltage
	2	Tuned Collector, Hartley		
	3	and Colpitt's oscillators, R-C oscillator circuits		
10 <sup>th</sup>	1	phase shift and Wein bridge oscillator circuits	10	Revision
	2	Introduction to piezoelectric crystal and crystal oscillator circuit		
	3	Revision/Assignment		
11 <sup>th</sup>	1	Wave-Shaping and Switching Circuits	11	To generate square-wave using an astable multivibrator and to observe the wave form on a CRO
	2	Concept of Wave-shaping circuits		
	3	R-C differentiating and integrating circuits		
12 <sup>th</sup>	1	Diode clipping circuits, Diode clamping circuits	12	To observe triggering and working of a bistable multivibrator circuit and observe its output wave form on a CRO
	2	Applications of wave-shaping circuits, Transistor as a switch		
	3	Collector coupled astable, monostable, Bistable multivibrator circuits		
13 <sup>th</sup>	1	Working and applications of transistor inverter circuit using power transistors	13	To study the pin configuration and working of IC 555 and its use as mono stable and astable multi vibrator
	2	Revision/Assignment of 5 <sup>th</sup> unit		
	3	Unit6: Working Principles of different types of power supplies viz. CVTs		
14	1	IC voltage regulators(78xx,79xx)	14	Op-Amp (IC 741) as inverting and non-inverting amplifier, adder Comparator, integrator and differ-entiator verify using p-spice
	2	Revision/Assignment		
	3	Unit7: Operational Amplifier, differential amplifier		
15 <sup>th</sup>	1	Emitter coupled differential amplifier Offset even voltages and currents	15	Viva

	<b>2</b> Integrator and differentiator, Summer, Subtractor		
	<b>3</b> Familiarization with specifications and pin configuration of IC 741		

