

NAME OF FACULTY: NAVEEN PARTAP SINGH
DISCIPLINE : ECE ENGG.
SEMESTER : 2ND
SUBJECT : EDC-1
DURATION : 16 WEEKS

Week	Topic(Theory)	Topic(Practical)
1	Need for multistage amplifier Gain of multistage amplifier Different types of multistage amplifier like RC coupled	Plot the frequency response of two stage RC coupled amplifier and calculate the bandwidth and compare it with single stage amplifier
2	transformer coupled, direct coupled and their frequency response and bandwidth Difference between voltage and power amplifiers Importance of impedance matching in amplifiers Class A, Class B, Class AB, and Class C amplifiers	
3	collector efficiency and Distortion in class A,B,C Single ended power amplifiers, Graphical method of calculation (without derivation) of out put power	To measure the gain of push-pull amplifier at 1KHz
4	heat dissipation curve and importance of heat sinks. Push-pull amplifier, and complementary symmetry push-pull amplifier	
5	Basic principles and types of feedback Derivation of expression for gain of an amplifier employing feedback Effect of feedback (negative) on gain	To measure the voltage gain of emitter follower circuit and plot its frequency response
6	stability, distortion and bandwidth of an amplifier RC coupled amplifier with emitter bypass capacitor Emitter follower amplifier and its application	
7	Use of positive feedback Barkhausen criterion for oscillations Different oscillator circuits-tuned collector, Hartley	Plot the frequency response curve of Hartley and Colpitt's Oscillator
8	Colpitts, phase shift, Wien's bridge, and crystal oscillator Their working principles	
9	Series and parallel resonant circuits and bandwidth of resonant circuits Single and double tuned voltage amplifiers and their frequency response characteristics	Plot the frequency response curve of phase shift and Wein bridge Oscillator
10	Working principle of transistor as switch Concept of multi-vibrator: astable, monostable, and bistable and their applications	
11	Block diagram of IC555 and its working and applications IC555 as monostable and astable multi-vibrator and bistable multivibrator	Use of IC 555 as monostable multivibrator and observe the output for different values of RC
12	Characteristics of an ideal operational amplifier and its block diagram	Use of IC 555 as astable multivibrator and observe the output at different duty cycles

	IC-741 and its pin configuration Definition of differential voltage gain	
13	CMRR, PSRR, slew rate and input offset current Operational amplifier as an inverter, scale changer, adder, subtractor, differentiator, and integrator	To use IC 741 (op-amplifier) as Inverter, Adder, Subtractor Integrator
14	Concept of DC power supply. Line and load regulation Concept of fixed voltage, IC regulators (like 7805, 7905), and variable voltage regulator like (IC 723)	To realize positive and negative fixed voltage DC power supply using three terminal voltage regulator IC (7805, 7812, 7905)