

ANALOG ELECTRONICS

- 1. Four ideal amplifiers : Ideal voltage amplifiers, ideal current amplifiers, ideal transresistance amplifiers and ideal transconductance amplifiers and distortions(amplitude or harmonic distortions, frequency distortion and phase distortion); Lecture : 4**
- 2. Mid frequency amplifiers :**
 - a. Analysis of CB,CE &CC amplifiers using hybrid model(chapter eight of integrated electronics by Millman & Halkias).**
 - b. Low and High Frequency analysis of CB, CE & CC (Chapter 11 and Chapter 12 except Section 12-10 and 12-11).**
 - c. rise time method for determination of fb using the formula of $t_r f_h = 0.35$ and 10% sag method for the determination of fower using sag method. Lecture : 15**
- 3. Bootstrapping in emitter follower, Darlington pair, cascade amplifier, CC-CB cascade.Lecture : 4**
- 4. Multistage amplifiers and band width shrinkage in multi stage amplifiers. Lecture : 3**
- 5. Incremental model of FET and incremental analysis of common source at low & high frequencies. Lecture : 3**
- 6. Noise and noise figure in amplifiers : Thermal noise, shot noise, flicker noise, Friss formula Lecture : 4**
- 7. Class A, Class B and Class AB power amplifiers with reference to Complementary Symmetry Amplifiers. Lecture : 5**
- 8. Barkhausen criteria and oscillator : Wien bridge, RC phase shift, quadrature, Hartley, Colpitts oscillator. Lecture : 6**
- 9. Tuned amplifiers-single tuned amplifiers Lecture : 4**