

AEC ASSIGNMENT -1 14/02/20

1. Draw the small signal high frequency (hybrid-π) CE model of transistor and give their typical values?
2. Derive the equation for gm, which gives relation between gm, Ic and temperature?
3. Prove that a) hfe=gm\*rb’e b)output resistance gce.
4. Draw the circuit diagram of single stage RC coupled BJT amplifier and derive its frequency response (analysis) at low and high frequency?
5. Derive high frequency analysis of single stage FET amplifier?
6. Explain the concept of feedback with block diagram?
7. Classify the various feedback amplifiers with different topologies?
8. Draw the circuit diagram of voltage series feedback and derive expressions for input and output resistances?
9. Show that current series feedback amplifier input and output resistance are increased by a factor (1+Aβ) with feedback?
10. Draw the two stage transformer coupled amplifier and derive its frequency response at mid frequency region?
11. Draw the two stages RC coupled amplifier and derive its frequency response at mid, low and high frequency regions?