E151 Lecture 22 Handout

What are some common loads that require high power? What are some frequency dependent quirks about these loads?

List four characteristics that we care about when we are designing output stages.

What is the maximum power transfer theorem? What does it state if you control the source? What if you control the load?

What is the definition of efficiency? How do you pick Rs to maximize the efficiency?

What is the large signal transfer function of a current-source-biased emitter follower amplifier? Draw a graph & explain sources of nonlinearity. (Why is there an alternate minimum voltage?)

What is the maximum efficiency of an emitter follower amplifier? How is it calculated?

Draw a push-pull and a class AB amplifier

Draw the large signal transfer function of a push-pull. What is crossover distortion? How does a class AB amplifier fix it

What is the difference between class A, class B and class AB amplifiers?

What is the maximum power efficiency of a push-pull? How does it fare under non-optimal conditions when compared to the emitter follower?

What is thermal runaway and how do we prevent it?