

E151 Lecture 25 Handout

What is the condition for an oscillator to oscillate in negative feedback?

What is the condition for an oscillator for to oscillate in positive feedback?

Draw a phase shift oscillator and write a formula for its oscillation frequency

What gain is required around the loop for a phase shift oscillator?

Draw a Colpitts oscillator and a block diagram representing it

Write a formula for a Colpitts oscillator oscillation frequency

What gm is required for a Colpitts oscillator? What does that imply about its biasing?

What is a describing function and what is it used for?

Draw a Schmitt Trigger Oscillator and a Ring Oscillator. Write Formulas for their frequencies.