Lecture 17 -- Review, Dynamics, MOS Capacitance

How do zero causing capacitors and pole causing capacitors relate to mid-band gain? Draw a picture that's helpful for remembering what each kind of cap does at different frequencies.

Draw some common small signal structures, their impedances, and list what types of amplifiers they're associated with.

Relate the graphical interpretation of Bode magnitude and phase plots to a simple transfer function. Include both the drawing and the equation.

How are the initial and final value theorems related to the passive dynamics techniques we observed earlier in the semester?

What part of a differential equation solution are poles associated with?

Express a homogenous differential equation solution in terms of poles

What dynamics dominate most amplifiers?

What two capacitors appear in a MOS small signal model? What physical capacitances are they comprised of?

How is gate-to-channel capacitance assigned in different regions of operation?

What are parasitic capacitors in a MOSFET? Which ones appear in Cgd?