REVIEW FOR EXAMINATION NO.1

Examination No. 1 will be given during class on Monday, February 14, 2005 from 9:05am to 9:55am. It will last for 55 minutes and is closed book. One page (front and back) of handwritten or typed notes (no copier reductions) is permitted and if relationships you need are not available, ask your instructor. The exam will consist of approximately 4 problems. Below is a list of the material for which you are responsible.

Output Stages

Emitter and source follower
- Transfer characteristics, power output and efficiency, input/output resistance
- Distortion

Push-Pull stages – BJT and MOS and BiCMOS
- Class B and Class AB
- Transfer characteristics, power output and efficiency, input/output resistance
- Distortion

Quasi-complementary output stages
Overload protection
Common source configuration with error amplifiers

Frequency Response

Frequency response of single-stage amplifiers
- Miller approach to finding –3dB frequency
- Exact analysis for two poles
- Dominant pole approach to finding –3dB frequency

Frequency response of the differential amplifier
- Differential, common mode and CMRR

Frequency response of voltage buffers
- Emitter follower
- Source follower
- Voltage gain, input impedance, output impedance

Frequency response of current buffers
- Current gain

Multistage amplifier frequency response
- Dominant pole approximation
- Open-circuit (zero value) time constant analysis
- Short-circuit time constant analysis