Assignment 12

The due date for submitting this assignment has passed. Do not submit any materials for this assignment.

Assignment Instructions:

1. Determine the low-frequency differential mode gain of the opamp of figure 1(a).
2. Determine the value of R1 so that the opamp has a phase margin of 60° in unity gain configuration, with 1% loading on the output of the opamp.
3. Determine the value of the Unity Gain Frequency of the Op Amp.
4. Determine the position of the dominant pole of the Op Amp.
5. Determine the position of the non-dominant pole of the Op Amp.
6. Determine the position of the high-frequency pole of the Op Amp.
7. Determine the minimum allowed input common mode voltages (ICMs) for the opamp of figure 1(b) to work properly. (All devices are in saturation region of operation).
8. Determine the maximum allowed ideal common mode (IC) voltage for the opamp of figure 1(b) to work properly. (All devices are in saturation region of operation).
9. Determine the minimum allowed output quiescent (VOQ) voltage for the opamp of figure 1(b) to work properly. (All devices are in saturation region of operation).

Figure 1(c) Single-stage configuration (b) closed-loop amplifier using the above opamp

(Refer to the figure for circuit diagram.)