

Problem Statement for Analog Design Contest

Q1. Design a Wilson Current Mirror using PMOS transistor. How is it effective while designing an Op-amp? Using the above current mirror circuit; design an Op-amp with no Miller Effect?

Q2. Design a circuit which exhibits two poles at one frequency. Work out its frequency response. What factors are critical in its designing? Suggest the possible applications of such circuit.

Q3. Design a 4 bit ADC using unipolar charge redistribution technique?

Q4. How the I-V characteristic of NMOS will change due to heat dissipation because of current flowing through channel. Discuss any application of such a phenomenon.

Rules and Guidelines for the event:

1: Event is open only for Bitsians. No participants from other colleges are allowed.

2: This is the first round of the event. Second round will be held during Apogee and will be based on cadence.

3: Students should mail there solutions to s.v.analogdesigncontest@gmail.com before 4 march,2010, 5:00pm.

4: Any queries should be mailed to the same email ID.

5: All other necessary details can be found in the attached pdf.

6: Solutions should be submitted in the given format only.