EECS 143 Microfabrication Technology	Department of Electrical Engineering and Computer Sciences University of California, Berkeley **Week #9 Quiz--Metallization**

Name _____ Section _____ Date _____

(1) Draw a schematic diagram of the vacuum system, in the detail given in the lab manual. (label all components)

(2) Why do we need the "roughing" or mechanical pump? Briefly describe how they work.

(3) At what pressure do we switch to the diffusion pump (i.e. at what pressure has "roughing" been completed)? What could happen if we continue to pump using the mechanical pump at this pressure?

(4) What does the oil in the diffusion pump do? What is the danger inherent in the diffusion pump oil? What is the purpose of the cooled baffle?

(5) What is a cold trap and how does it "pump"?

(6) What is the purpose of the HF dip just prior to metallization?

(7) Why is low pressure so important for aluminum deposition?

(8) Why do we heat the charges at 40 Amps for ~20 seconds before we evaporate them?

(9) Will the metal layer be conformal? Why or why not?