Name _____

LAB 21

Viewing Worksheet -- Static Electricity

1) Describe proton motion in a solid conductor.

2) Describe electron motion in a solid conductor.

3) _____ transfers charge.

4) Describe the motion of electrons between the wool and the cotton.

5) Define grounding.

6)What is the charge on the man's arm? What will happen when he touches the pipe?

7) What will happen if a positively charged man touches a pipe?

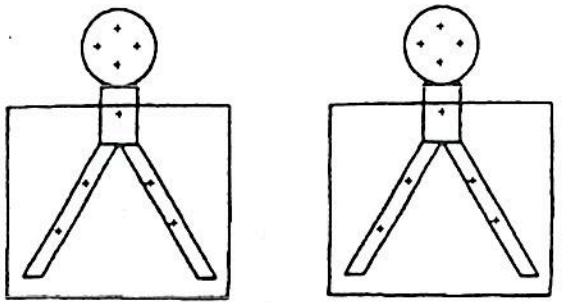
8) A positively charge body becomes neutral by _____
_____
_____

9a) Describe the direction of electron flow between a neutral electroscope and a negatively charge rod when they touch.

9b)Why do the leaves of the electroscope separate?

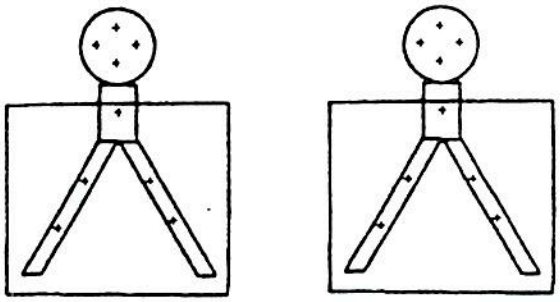
10) Charging by Contact =_____

11) Draw the charge distribution on a negatively charged electroscope



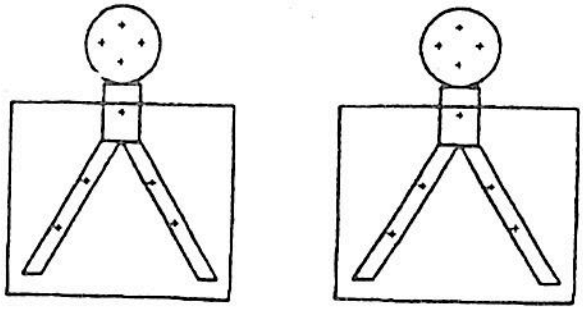
12a) Describe the motion of electrons through an electroscope when it is touched by a positively charged rod.

12b) Draw the charge distribution of the electroscope.



13a) What happens when you bring the positively charge rod near a neutral electroscope.

13b) Draw the charge distribution of the electroscope. Determine the charge on the knob, leaves, and the entire device.



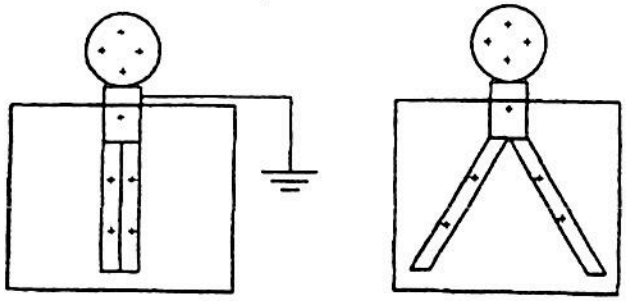
Charge on knob _____

Charge on leaves _____

Total charge _____

15) Define Induced Separation of Charge

16a) Draw the charge distribution of a neutral electroscope when a positively charge rod is held over the electroscope and the electroscope is touched by a ground. Show the charge distribution once the ground is removed and the rod is removed.



16b) Describe the motion of the charge through the ground.

16c) List the three separate motions of electrons when a positively charge rod is held near an electroscope, the electroscope is briefly touched by a ground, and the rod is removed.

I)

ii)

iii)