**Mini-quiz #7 Chemistry 1114 section 2 (Fong) Monday 12 September 2012**

Your name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A 5 pts

7.1. Given that E=hc/λ where h= 6.63 \*10-34 Joule seconds, and c=3\*10 8 meters/second

compute the energy of a photon with a wavelength of 1000 meters.

E= \_\_\_\_1.989\*10-28\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ joules (2 pts)

7.2. Since f\*λ= c=3\*108,what is the frequency of the wavelength above ? (1000 meters)

f=\_\_\_\_\_\_\_3\*105 (300,000)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hertz (2 pts)

7.3. In the list below, what didn’t Bohr develop? (circle your choice)

a) A quantum model for the atom

b) A planetary picture for electron orbits around the nucleus

c) An explanation for why the Sun only shows a few colors

d) An explanation for why the electron and protons don’t collapse into each other

**e) An exact solution for the value of h from theory alone**

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Your name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B 5 pts

7.1. Given that E=hc/λ where h= 6.63 \*10-34 Joule seconds, and c=3\*10 8 meters/second

compute the energy of a photon with a wavelength of 10,000 meters.

E= \_\_\_\_\_1.989\*10-29\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ joules (2 pts)

7.2. Since f\*λ= c=3\*108,what is the frequency of the wavelength above ? (10,000 meters)

f=\_\_\_\_\_\_\_\_3\*104 (30,000)\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hertz (2 pts)

7.3. In the list below, what didn’t Bohr develop? (circle your choice)

a) A quantum model for the atom

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c) An explanation for why the Sun only shows a few colors

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**e) An exact solution for the value of h from theory alone**