**Mini-quiz #30 Chemistry 1114 section 2 (Fong) 17 Nov 2014 3 pts A**

**Your name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Note: c= speed of light =3\*108 m/s h=6.63\*10-34 Joule\*seconds (J\*s)**

**1) A wave is found to have a frequency,f, of 1000/s and a wavelength of 5\*10-4 m. What the**

**speed of the wave, v in /s?**

**f\*λ=v=1000\*5\*10‑4=0.5**

**v = \_\_\_0.5\_\_\_\_\_\_\_ m/s**

**2) A photon has an energy of 3.980\*10-17 J. What is the wavelength, λ, of the photon in meters(m)?**

**E=hc/λ=1.989\*10‑25/λ =3.98\*10‑17 => λ=1.989\*19‑25/3.98\*10‑17 ~5\*10\_9**

**λ= \_\_\_\_5\*10‑9\_\_\_\_\_\_\_\_\_\_ m**

**3) DeBroglie theorized:**

**a) H atom is a series of circular electron orbits**

**b) Plum Pudding model of atom**

**c) matter has wave-like properties: mv=h/λ**

**d) E=mc2**

**4)Bohr theorized:**

**a) H atom is a series of circular electron orbits**

**b) Plum Pudding model of atom**

**c) matter has wave-like properties: mv=h/λ**

**d) E=mc2**

**Mini-quiz #30 Chemistry 1114 section 2 (Fong) 17 Nov 2014 3 pts B**

**Your name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Note: c= speed of light =3\*108 m/s h=6.63\*10-34 Joule\*seconds (J\*s)**

**1) A wave is found to have a frequency,f, of 10000/s and a wavelength of 2\*10-4 m. What the**

**speed of the wave, v in /s?**

**f\*λ=v=10000\*2\*10‑4=2**

**v = \_\_\_\_\_\_2\_\_\_\_\_\_\_\_\_ m/s**

**2) A photon has an energy of 1.989\*10-17 J. What is the wavelength, λ, of the photon in meters(m)?**

**E=hc/λ=1.989\*10‑25/λ =1.989\*10‑17 => λ=1.989\*19‑25/1.989\*10‑17 =10-8**

**λ= \_\_\_10-8\_\_\_\_\_\_\_\_\_\_ m**

**3)Bohr theorized:**

**a) H atom is a series of circular electron orbits**

**b) Plum Pudding model of atom**

**c) matter has wave-like properties: mv=h/λ**

**d) E=mc2**

**4) DeBroglie theorized:**

**a) H atom is a series of circular electron orbits**

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**c) matter has wave-like properties: mv=h/λ**

**d) E=mc2**