

Name: _____

Physics 151

Prof. Thomson's Section

Quiz on Ch 32

April 18, 2005

1. An electromagnetic wave of wavelength 435 nm is traveling in vacuum in the $-z$ direction.

The electric field has an amplitude 2.70×10^{-3} V/m and is parallel to the x axis.

(2pts) (a) What is the frequency?

(2pts) (b) What is the magnetic field amplitude?

(4pts) (c) Write the vector equations for $\vec{E}(z, t)$ and $\vec{B}(z, t)$

2. An electromagnetic standing wave of frequency 750 MHz is set up between two conducting planes 80.0 cm apart. At which positions between the planes could a point charge be placed at rest so that it would remain at rest? (2pts)