

## **Astronomy 115-06 Fall 2007**

### **Midterm #2 Review Sheet**

The exam will take place in class on Wednesday, November 7<sup>th</sup>. It will be closed book and closed notes. Any equations or constants needed will be provided on the test. You may bring a calculator that is not part of a cell phone.

You will need to bring a Scantron form 882-E (teal green)

Topics to be covered:

**Chapter 5:** light/electromagnetic spectrum, telescopes: reflecting, refracting, light gathering power & angular resolution, the need for different types of telescopes to observe different kinds of light

**Chapter 6:** Atoms & electron energy levels, wavelength, frequency & energy of light/photons ( $\lambda \times f = c$  &  $E = h \times f$ ), three types of spectra, Wein's Law, spectral types of stars: OBAFGKN, Doppler effect

**Chapter 7:** The basic structure of the sun's interior and atmosphere, convection, corona, the sunspot cycle, nuclear fusion,  $E=mc^2$

**Chapter 8:** Parallax, Inverse Square law for light, absolute and apparent magnitude, HR diagram, binary stars, Mass-luminosity relation

**Chapter 9:** Star formation, types of nebulae, hydrostatic equilibrium, lifetimes of main sequence stars, fusion in stars

**Chapter 10:** Death of massive stars, death of low-mass stars, fate of the sun, red giants, white dwarfs, planetary nebulae, red supergiants, supernovae

**Not on test:** Section 9-5 (The Orion Nebula), the CNO cycle, eclipsing binaries, Section 10-3 (evolution of binary systems), the solar neutrino problem, different types of supernovae, degenerate matter, luminosity classes, spectroscopic parallax