**STUDY GUIDE FOR QUIZ 2**

The Quiz format is identical to that of Quiz 1

Part A consists of 20 short questions and Part B of 7 questions. You are asked to attempt all 20 questions in Part A and 1 of the Part B questions.

**Part A**
Can you manipulate $E = hf = hc/\lambda$?

Describe continuous, absorption and emission spectra.

Can you manipulate $L = R^2 T^4$?

Recall the system of spectral classification? Temperature classes O, B, A, F, G, M and luminosity classes I, II, III, IV, and V. And what is meant by a main sequence star and a red or blue supergiant.

Doppler Shift?

The mass luminosity relation for main sequence stars: $L \propto M^4$ (or $M^{3.5}$)

Trigonometrical parallax and the parsec.

Luminosity and brightness: $L \propto B/d^2$

The H-R diagram: what is plotted against what? Over what ranges?

Why are binary stars important?

Differences between visual, eclipses and spectroscopic binaries.

Can H burning go on for ever?

**Part B**
Characteristic features of spectral types O through M.

Why do we know that a main sequence star must have a hot core and be generating energy.

Why does nuclear fusion occur only at high temperatures.

How is energy from fusion in a star's core carried to the star's surface?

What is the H-R diagram? How does the H-R diagram for nearby stars differ from that for the brightest stars?

What is the mass-luminosity relation?

Why is an oxygen nucleus stable?

Where have red giants come from?