1. Two stars A and B are observed to emit radiation in the visible portion of the electromagnetic spectrum as shown in the plot below. (2pts)

Which star has the hotter surface temperature?  

Which star emits the most blue light?  

Which star emits the most red light?  

Which star emits the most total observed energy?  

If both stars have the same size, which star is furthest from Earth?  

2. If the surface temperature of the Sun were to increase by a factor of 3, by what factor would the total energy output of the Sun increase? (1 pt)  

( 3  9  27  81 )  

3. According to Wien's Law, if a star emits its maximum energy in the UV portion of the EM spectrum at a wavelength of 2,900 Angstroms, its surface temperature is (1pt)  

( 1,000  5,000  10,000  50,000 ) degrees Kelvin.  

4. Visual binary stars are most useful for determining which stellar parameter? (1pt)  

( M, T, L, R )
5. Eclipsing binary stars are most useful for determining which stellar parameter? (1pt)

( M, T, L, R )

6. When a star is observed to be moving away from you, the E&M radiation that it emits will be observed to be (redshifted, blueshifted). (1pt)

7. If a star has a measured parallax angle of 1 arcsecond then its distance from Earth is (1pt)

( 100pc 10pc 1pc 0.1pc ).

8. When you observe a star through a telescope you are obtaining at that moment a measure of the star's (apparent / absolute) brightness. The absolute brightness of a star refers to how bright it would be at a fixed distance of ________________ from the Earth. (2pts)

9. Stars that differ by 10 magnitudes in brightness actually differ in brightness by a factor of ________________. (1pt)

10. The Sun is a ( O B A F G K M ) type star with a surface temperature of ( 28,000 10,800 5,800 4,800 ) deg K. (2pts)

11. Betelgeuse is a ( O B A F G K M ) type star with an absolute visual magnitude of ( +10 +4 +1 -5 -10 ). (2pts)