

## Exam II Things to know

- 1) Hydrostatic and thermal equilibrium
- 2) Hydrogen fusion PP chain, CNO cycle
- 3) Convection and radiative transfer
- 4) Neutrinos
- 5) Solar/stellar winds
- 6) Stellar properties, distance, temperature, mass, luminosity, size and how we measure them
- 7) Parallax
- 8) Binary stars
- 9) Apparent brightness, luminosity and distance relation
- 10) Mass-luminosity relation for main sequence stars
- 11) Mass, main sequence lifetime relation
- 12) Spectral types absorption line strengths and temperatures
- 13) H-R diagrams, position of Sun
- 14) Cluster ages
- 15) Emission nebula, reflection nebula, dark nebula
- 16) Stellar evolution of Sun and 25 solar mass star
- 17) Proto-stars, main sequence stars, red giant stars, horizontal branch stars, asymptotic giant branch stars what they are as well as where they are on an H-R diagram
- 18) Cepheid variable stars
- 19) Planetary nebula
- 20) Nova, supernova type Ia and type II
- 21) White dwarfs
- 22) Neutron stars/pulsars