$^{12}/_{16}$

L7 Stars

L7.1 Which elements were produced in the Big Bang?

L7.2
a) What is the name of a collapsing mass of dust and gas which has not yet reached the temperatures and pressures needed for ignition?
b) What is the temperature in the centre of the Sun?

L7.3 What is the nuclear reaction which powers stars?

L7.4 Which two forces govern the progress of a star, and are in equilibrium when the star is in a steady phase?

L7.5
a) What is the term for a stable star (such as our Sun) in the 'adult' phase of its existence?
b) Other than yellow stars such as the Sun, give another type of star which is also in the 'adult' phase of its existence.
c) Give the difference in nuclear process between a regular 'adult' star and a red giant/supergiant?

L7.6 Give the time period for which a star will typically remain as a red giant/supergiant.

L7.7 Red giants and red supergiants both end in explosions. But the explosions are different. Give the differences as listed below
a) What is the last element formed in bulk before the explosion?
b) What is the name of the explosion?
c) What is formed in the core of the giant as a result of the explosion?
d) In the case of a red giant - what is the name given to the space object formed from the material ejected during the explosion.

L7.8 On Earth, there is quite a lot of uranium. Where was it made?

L7.9 How heavy does the core of a red supergiant star have to be in order to form a black hole?

L7.10 What is a pulsar? (Make sure you give the reason for the pulsing.)