

PART II

Attempt **TWO** questions in this Part, which carries 24% of the marks for the examination. All of these questions carry equal marks. You are advised to spend about **40 minutes** on this Part. Write your answers to this part in the **SEPARATE ANSWER BOOK** provided.

Remember to write your name, personal identifier and examination number on your answer book.

Question 1
part a, 10%
part b, 2%

- (a) Sketch a section through the Sun. On your sketch show and label
- the core where nuclear reactions are taking place
 - the radiative zone
 - the convective zone
 - the photosphere

Beneath your sketch state

- the effect of the nuclear reactions in the core on the composition and on the temperature (detailed nuclear reactions are not required)
- why the reactions are confined to the core
- the composition at the photosphere and at the centre, and why the compositions are different (a qualitative statement will do).

- (b) Outline why the Sun is stable, in that it is not contracting under its own gravity.

