

Name of the Student: _____

Max. Marks : 18 Marks

Time : 18 Minutes

Mark Schemes

Q1.

(a) *answer includes items:*

B D G

each for 1 mark

3

(b) *answer includes items:*

A E F [allow H here for a further mark]

each for 1 mark

3

(c) *answer includes items:*

C H* I J

*each for 1 mark [*unless already credited in (b)]*

4

(d) ideas that:

- lucky in the sense that they weren't initially looking for the background radiation [others were!!!]
- more than just lucky in that they investigated it and didn't just ignore it

each for 1 mark

[NB Reference to letters only, not a prose answer, gain only ½ mark each.
Total rounded down]

2

[12]

Q2.

ideas that

- formed from dust/gases
- pulled together by gravity
- massive so very large gravitational forces (pulling inwards)
- hydrogen → helium / fusion releases energy [not fission or just 'nuclear']
- high temperature creates high pressure (pushing outwards)
- long period when forces balance

- then expands → red giant / red star

- then contracts to (dense) white dwarf / white star

[credit if massive enough / more massive than sun, red giant → supernova → (very dense) neutron star but do not accept w.r.t. Sun itself]

[The whole of the (non bracketed part of) each idea must be present in some appropriate form of words for each mark to be credited. To gain more than a single mark ideas must also be in correct sequence and/or appropriately related.]

any six 1 mark each

[6]