

Name of the Student: _____

Max. Marks : 19 Marks

Time : 19 Minutes

Mark Schemes

Q1.

(a) fusion

accept fussion

1

energy producing process

accept heat and/or light for energy

accept fussion

1

(b) up to 2 points from:

3 marks for 3 points in sequence with no contradiction

- expands

2 marks for 2 points in sequence with no contradiction

- cools

- forms a red giant

1 mark for a correct point which is not contradicted

up to 2 points from:

*do **not** accept 'it turns red'*

- contracts

- increases in temperature

- forms a white dwarf

ignore further reference to black dwarfs, black holes, nebulae, supernovae

3

[5]

Q2.

(a) gravitational attraction

for 1 mark

1

(b) gravitational (in);
high internal temperature generates force (out)

for 1 mark each

2

- (c) star expands;
to form red giant;
then contracts/collapses;
to form white dwarf/neutron star/black hole/pulsar;
they may explode/become supernova

any four for 1 mark each

4

- (d) engulfed by red giant/blown up by star/hit by debris from star; sucked into black hole

for 1 mark

1

[8]

Q3.

light from (distant) galaxies shows shift to red end of spectrum
wavelength increased explained by galaxies moving away from us
more distant galaxies have greater recession speed seen in all directions
suggests universe is **expanding** any sensible reference to similar effect on Earth

any 6 for 1 mark each

[6]