Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Mark Schemes

Q1.

formed from dust or gas (unless in atmosphere) which is pulled together by gravitational forces high temperature inside

[2]

Q2.

(i) the Universe might have started with an explosion/"Big Bang"

1

(ii) light from galaxies is shifted to red end of spectrum
the further away the greater the red shift all galaxies receding furthest fastest
microwave background echo of big bang
for 1 mark each

2

[3]

Q3.

(i) the nuclei
of hydrogen/smaller atoms
join to make helium/larger atoms
for 1 mark each

3

(ii) the mass of the large nucleus (atom) is less than the mass of the smaller nuclei (atoms)
for 1 mark

mass loss converted into energy or small mass loss given a large amount of energy
for 1 mark

2

[5]

Q4.

(a) the Sun is subject to two balancing forces / 2 forces in equilibrium
the forces are: gravity making it contract **or** inward force due to gravity
and a force due to temperature / heat / energy / radiation pressure making it expand **or** outward force due to temperature / heat / energy / radiation pressure
for 1 mark each

3

Downloaded from www.merit-minds.com

(b) Read all the answer first. Stop after 6 marks.

hydrogen / fuel used up owtte the star will expand and become a red giant
it will contract under gravity become a white dwarf
it may explode and become a supernova throwing dust and gas into space
leaving a dense neutron star / black hole

(no mark for contradiction)
any six for 1 mark each

6

[9]

Downloaded from www.merit-minds.com