

Name of the Student: _____**Max. Marks : 18 Marks****Time : 18 Minutes**

Mark Schemes

Q1.

	Answer	Acceptable answers	Mark
	A description including the following stages (up to 3 marks) Protostar (1) Main sequence star (1) (super) red giant (1) supernova (1) neutron star (1) (even more massive star can become) black hole (1) more massive stars have shorter life (1) Three stages in the correct sequence (1)		(4)

Q2.

Question number	Answer	Additional guidance	Mark
	An explanation to include any three from: nebula as a cloud of gas/dust (1) gas / atoms pulled together / towards each other (1) by gravitational force (1) temperature increase (1) hot enough for nuclear fusion (1)	 density increase gravity (acting) (resultant) heating s	(3)

Q3.

Question number	Answer	Additional guidance	Mark
	<p>A description to include:</p> <p>wavelength (of the light) (1)</p> <p>appears to increase (1) [increase must be linked with wavelength]</p>	<p>Red shift/Doppler effect</p> <p>(Red shift) shows galaxy moving away</p> <p>accept answers in terms of frequency</p>	<p>(2) AO1</p>

Q4.

	Answer	Additional guidance	Mark
	(there is) an increase in wavelength (of light) (1) shows <u>galaxies</u> are moving away (from Earth) (1)	allow wavelength stretches allow red shift ignore shift to red end of spectrum ignore objects / stars / planets	(2) AO1

Q5.

Question number	Answer	Additional guidance	Mark
	<p>An explanation that combines identification – understanding (1 mark) and reasoning/justification – understanding (2 marks):</p> <ul style="list-style-type: none">• at the time, there was only naked eye evidence (1)• which indicated Sun/Moon/planets appear to move across the sky (1)• in the same direction, same motion each day (1)	<p>allow valid alternatives, e.g. references to comets</p>	<p>(3)</p>

Q6.

Question number	Answer	Additional guidance	Mark
	Any two of the following 1. mass (1) 2. radius (1) 3. density (1)	 allow made of different substance/ material if no other mark awarded, allow 1 mark for (Moon is) smaller or Earth is bigger	(2) AO2

Question number	Answer	Additional guidance	Mark
	<p>an explanation linking any two from</p> <p>improves clarity (of images) (1)</p> <p>light (from distant objects) is (very) faint (1)</p> <p>idea that atmosphere absorbs/scatters light (1)</p> <p>(HST) is above the atmosphere (1)</p> <p>light pollution (on/from Earth) (1)</p>	<p>accept air for atmosphere</p>	<p>2</p> <p>AO1.1</p>