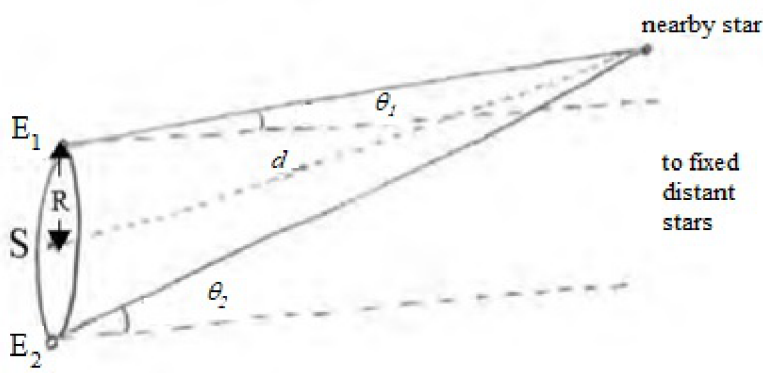


Question Number	Answer	Mark
17(a)	<p>Find (angular) displacement of the star (as Earth moves around the Sun) over a 6 month period  <b>Or</b> find (angular) displacement of the star (as Earth moves around the Sun) over a diameter of the Earth's orbit (1)</p> <p>Measurements are made against the background of (more) distant stars (1)</p> <p>Radius/diameter of the Earth's orbit about the Sun must be known/measured (to calculate the distance to the star) (1)</p> <p>[For full credit, it must be clear that angles are being measured]</p> <p>[Marks can be obtained from an annotated diagram]</p>  <p>[Accept the symmetrical diagram seen in many textbooks]</p>	3
17(b)	<p><b>EITHER</b></p> <p>Distant galaxies are receding (1)</p> <p>The velocity of recession can be calculated from the redshift (1)</p> <p>A graph of recessional velocity against distance has a gradient equal to the Hubble constant <math>H_0</math> (1)</p> <p>The age of the universe is <math>1/H_0</math> (1)</p> <p><b>OR</b></p> <p>Distant galaxies are receding (1)</p> <p>The redshift can be calculated (1)</p> <p>A graph of redshift against distance has a gradient equal to <math>H_0/c</math> (1)</p> <p>The age of the universe is <math>1/H_0</math> (1)</p>	4
<b>Total for question 17</b>		<b>7</b>