

| Question number | Answer | Notes | Marks | | | | | | | | |
|-----------------|---|--|----------|---------|--|-----------|------------|------|----------|--|---|
| 6 (a) (i) | <p>;;;</p> <p>all four stars in the correct positions = 3 marks</p> <p>any two stars in the correct positions = 2 marks</p> <p>any 1 star in the correct position = 1 mark</p> <table border="1"> <tr> <td colspan="2">Coolest</td><td colspan="2">Hottest</td></tr> <tr> <td>Antares A</td><td>61 Cygni A</td><td>Vega</td><td>Sirius B</td></tr> </table> | Coolest | | Hottest | | Antares A | 61 Cygni A | Vega | Sirius B | | 3 |
| Coolest | | Hottest | | | | | | | | | |
| Antares A | 61 Cygni A | Vega | Sirius B | | | | | | | | |
| (ii) | Antares (A); | | 1 | | | | | | | | |
| (b) | <p>any three from:</p> <p>MP1. nebula is (cold) cloud of dust/gas;</p> <p>MP2. gravity causes cloud to collapse/eq;</p> <p>MP3. temperature of cloud increases/eq;</p> <p>MP4. creating a protostar;</p> <p>MP5. idea that (main sequence star created when) fusion starts;</p> | | 3 | | | | | | | | |
| (c) | <p>any four from:</p> <p>MP1. idea that hydrogen fusion stops (in core);</p> <p>MP2. core collapses;</p> <p>MP3. core temperature of star increases;</p> <p>MP4. (star expands to) become a red (super) giant;</p> <p>MP5. surface temperature of star decreases (during red giant phase)</p> <p>MP6. helium fusion begins;</p> <p>MP7. white dwarf formed when helium fusion stops (in core);</p> <p>MP8. idea of rest of star released (as a planetary nebula);</p> | <p>condone idea of hydrogen runs out</p> <p>allow star collapses</p> | 4 | | | | | | | | |

Total for Question 6 = 11 marks