| Question Number | Answer | Additional Guidance | Mark |
|---|---|---|---|
| **6(a)(i)** | An explanation which makes reference to two of the following:<br><br>• (each zygote is formed) from different gametes / random fertilisation (1)<br><br>• each gamete contains different combinations of alleles (1)<br><br>• (different combination of alleles due to) { independent assortment / crossing over } (during meiosis) (1) | ALLOW not monozygotic twins | **(2)** |

| Question Number | Answer | Additional Guidance | Mark |
|---|---|---|---|
| **6(a)(ii)** | An explanation which makes reference to the following:<br><br>• cortical reaction / fusion of cortical granules with egg cell (surface) membrane (1)<br><br>• resulting in { thickening / hardening } of the zona pellucida (1)<br><br>• therefore (other) sperm cells cannot reach egg cell (surface) membrane (1) | | **(3)** |

| Question Number | Answer | Additional Guidance | Mark |
|---|---|---|---|
| **6(b)(i)** | • (range of heights) show continuous variation (1) | ALLOW continuous data | **(1)** |

| Question Number | Answer | Mark |
|---|---|---|
| **6(b)(ii)** | **B** - controlled by more than one gene<br><br>*The only correct answer is B*<br><br>*A is not correct because a polygenic trait is not controlled by a large number of alleles of one gene*<br><br>*C is not correct because a polygenic trait is not controlled by one gene from each parent*<br><br>*D is not correct because a polygenic trait is not controlled by one gene and the environment* | **(1)** |

| Question Number | Answer | Additional Guidance | Mark |
|---|---|---|---|
| **6(b)(iii)** | An answer which makes reference to the following:<br><br>• 70 cm (1)<br><br>• the highest frequency (of antelopes) (1) | ALLOW 'most common' height | **(2)** |

| Question Number | Answer | Additional Guidance | Mark |
|---|---|---|---|
| **6(c)(i)** | An explanation which makes reference to the following:<br><br>• (*Saiga* more closely related to *Antilope*) because they shared a common ancestor more recently (1)<br><br>• there are more similarities in the protein (1) | <br><br><br><br><br>e.g. similar sequences of amino acids in the protein | **(2)** |

| Question Number | Answer | Additional Guidance | Mark |
|---|---|---|---|
| **6(c)(ii)** | An answer which makes reference to the following:<br><br>• they are less closely related (1)<br><br>• DNA { profiling / analysis / comparison } (1)<br><br>• (detected) more differences in the mitochondrial genome (1) | | **(3)** |