

Question Number	Answer	Mark
5(a)(i)	A= acrosome ; B = flagellum ;	(2)

Question Number	Answer	Mark
5(a)(ii)	<ol style="list-style-type: none"> <li>1. has {23 / half} the (required) chromosome complement ;</li> <li>2. (so at fertilisation) full {complement / 46} (of chromosomes) is restored / diploid number restored / eq ;</li> <li>3. correct reference to allowing mixing of alleles / allowing for {genetic variation / eq} ;</li> </ol>	max (2)

Question Number	Answer	Mark
5(a)(iii)	<ol style="list-style-type: none"> <li>1. idea of {jelly layer / eq} hydrolysed ;</li> <li>2. sperm {nucleus/eq} enters the egg cell / egg cell membrane penetrated (by sperm) / eq ;</li> <li>3. reference to meiosis completes / eq ;</li> <li>4. cortical {granules / vesicles / eq} (in egg) {move towards / fuse with} egg cell surface membrane ;</li> <li>5. release {contents / enzymes} ;</li> <li>6. zona pellucida hardens / eq ;</li> <li>7. to prevent polyspermy / eq ;</li> <li>8. egg nucleus envelope breaks down / eq ;</li> <li>9. spindle forms / eq ;</li> </ol>	max (3)

Question Number	Answer	Mark
<b>5(b)(i)</b>	1. length increases between 15°C to 30°C ; 2. decreases after 30°C ; 3. correct manipulation of the data ;	<b>(2)</b>

Question Number	Answer	Mark
<b>5(b)(ii)</b>	1. mean pollen tube length increases as temperature increases (from 15°C) to 30°C for both ; 2. variety B has a greater mean pollen tube length than A (up to 30°C) / allow converse ; 3. both have {longest length / maximum length} at 30°C ; 4. correct comparative manipulation of the data e.g. mean pollen tube length is 50% more for cotton variety B at 30°C ;	<b>max (2)</b>

Question Number	Answer	Mark
<b>5(b)(iii)</b>	pollen tube dies / enzyme(s) denature / eq ;	<b>(1)</b>