

Question Number	Answer	Mark
4 (a) (i)	as a comparison / as a control / to show that it is {incubation temperature / not some other factor} affecting spindle fibre formation ;	(1)

Question Number	Answer	Mark
4 (a) (ii)	<ol style="list-style-type: none"> 1. as temperature increases (from 25°C) to 33°C the number of cells showing spindle fibre formation increases / positive correlation between 25°C and 33°C ; 2. as temperature increases from 33°C (to 37°C) there is no effect on number of cells showing spindle fibre formation / same values at 33°C and 37°C ; 3. credit correct manipulation of the data e.g. with a rise in temperature of 5°C (between 28 and 33°C) the number of cells showing spindle formation rises by 3 ; 	(2)

Question Number	Answer	Mark
4 (b) (i)	<ol style="list-style-type: none"> 1. idea that (only) 35°C statement is supported ; 2. idea that data either side of 35°C both show all 5 (cells undergoing spindle fibre formation) ; 3. idea that only from 33°C do all 5 (cells show spindle fibre formation) ; 	(2)

Question Number	Answer	Mark
4 (b) (ii)	<ol style="list-style-type: none"> 1. idea that 31°C statement may not be supported ; 2. idea that it could be between 2 and 5 ; 	(2)

Question Number	Answer	Mark
* 4 (c) QWC	<p>Take into account quality of written communication when awarding the following points.</p> <p>Mark as pairs</p> <ol style="list-style-type: none"> 1. shape qualified e.g. hydrodynamic, streamlined ; 2. idea of reduced resistance ; 3. { <i>acrosome</i> / <i>vesicle</i> } containing { <i>enzyme</i> / <i>acrosin</i> } ; 4. involved in { digestion / break down } of the { <i>zona pellucida</i> / jelly layer } ; 5. { <i>haploid</i> / eq } <i>nucleus</i> ; 6. allows restoration of { diploid / full complement / 46 / eq } <i>chromosomes</i> at <i>fertilisation</i> ; 7. <i>mitochondria</i> qualified e.g. large number, correct location ; 8. to supply { ATP / energy } for { movement / eq } ; 9. { <i>flagellum</i> / eq } present ; 10. for propulsion / swimming / motility / eq ; 11. { markers / receptors } in cell surface <i>membrane</i> ; 12. to bind to egg cell surface <i>membrane</i> / detect chemicals released by <i>ovum</i> / eq ; 	(6)