

Question Number	Answer	Additional guidance	Mark
4 (b)	<p>An explanation that includes three of the following points:</p> <ul style="list-style-type: none"> • (tube) grows (through style) to {ovary / ovule / egg cell} / transports the {male nuclei / generative nucleus / male gametes} to {ovary / ovule / egg cell} (1) • (and secretes) digestive enzymes used to aid growth of tube (to ovule) (1) • (therefore) male nuclei can fuse with {egg cell (nucleus) / polar nuclei} (1) 	<p>Ignore micropyle Accept forms pathway to reach {ovary / ovule / egg cell}</p> <p>Accept enzymes digest through the style</p> <p>Accept fertilisation occurs to form {zygote / endosperm} Accept double fertilisation occurs / zygote and endosperm formed</p>	(3)

Question Number	Answer	Additional guidance	Mark
4(c)(i)	<p>An answer that makes reference to the following:</p> <ul style="list-style-type: none"> • as the Verapamil concentration increases the length of the pollen tube decreases (1) • credit a correct manipulated mathematical statement (1) 	Accept negative correlation	(2)

Question Number	Answer	Additional guidance	Mark
4(c)(ii)	<p>An answer that makes reference to the following:</p> <ul style="list-style-type: none"> • lower concentration of calcium ions (in the cells) (1) • fewer {pectin / calcium pectate} molecules formed (1) • therefore increased flexibility of {microfibrils / cellulose} (due to fewer {pectin / calcium pectate} molecules) (1) 	<p>Accept no calcium ions present (in the cells)</p> <p>Accept calcium (ions) needed to produce {pectin / calcium pectate}</p> <p>Accept {calcium pectate / pectin} (are needed to) hold {microfibrils / cellulose} together (in a matrix) Accept {microfibrils / cellulose} are not held together by {calcium pectate / pectin}</p> <p>Accept calcium pectate helps middle lamella to hold adjacent cell walls together</p>	(3)