

16. Reproduction

16.2 Sexual reproduction

Paper 3 and 4

Marking Scheme

Q1.

(a)	gamete ; meiosis ; fuse ; zygote ; different from ;	5	
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Q2.

(c)		3	one mark for each correct line
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Q3.

(a)	fusion of the nuclei of two gametes / AW ; to form a zygote ; production of genetically different offspring ;	3	
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Q4.

(b)	any two from: 1 meiosis / P / haploid stage ; 2 formation of, gametes / egg / sperm ; 3 process W / fertilisation / fusion of nuclei (of gametes) OR zygote / embryo, formed ;	2	
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Q5.

(b)	<p><i>any three from:</i></p> <ol style="list-style-type: none"> 1 allows <u>genetic</u> variation / diversity ; 2 (allows expression of) different combinations, alleles / DNA / mutations (from parents) ; 3 allows adaptation / evolution / natural selection, in response to, changing / new / different / unpredictable, environment / conditions / AW ; 4 example of environment factor where adaptation would be an advantage ; 5 reduces chances of extinction / increases chance of survival ; 	3	<p>MP1 A genetically different offspring / variety of genotypes</p> <p>MP2 A allows different recessive alleles to be expressed / AW</p> <p>MP3 A allows new areas to be inhabited / AW OR allow <u>better / more</u> adaptation / fitness, to (same) environment</p> <p>MP4 A adaptation to, new / different / changing, diet / climate / competition / (infectious) diseases / predators / pollutant etc.</p>
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Q6.

(b)	<p><i>any three from:</i></p> <p>involves, gametes / sex cells / pollen and ovules ; <i>ref. to</i> haploid cells ; <i>ref. to</i> meiosis / reduction division ; involves, fertilisation / fusion of nuclei / formation of zygote ; offspring show <u>genetic</u> variation ;</p>	3	
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Q7.

(c)	<p><i>any five from:</i></p> <p>(gives) genetic variation / diversity ; <i>ref to</i>, alleles / genes / DNA, from different, plants / parents ; allows mutations to be, expressed / AW ; allows adaptation to, new conditions / changed environment / AW ; (new species) can evolve / allows natural selection to occur ; pollen exchanged between individuals / cross pollination ; seeds are dispersed ; can colonise new areas / AW ; less competition (with parent plant / among offspring) ; seeds may be dormant ; survival through, harsh / adverse, conditions ; AVP ;</p>	5	
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