

Question		Answer	Mark	Guidance
1	(a)	<p><i>a difference is stated relating to</i></p> <p>fur length ;</p> <p>pattern / colour, of fur ;</p> <p>eye colour ;</p> <p>temperament / tameness ;</p> <p>face shape ;</p>	max 2	<p><b>Mark the first 2 suggestions (see point 12 above)</b></p> <p>For <b>each</b> mark point <b>CREDIT</b>  <b>EITHER</b> a paired comparison referring to <b>both</b> cats and identifying which has which feature, e.g. "the wildcat has green eyes and the Persian has blue" but allow top / bottom, Fig. 1.1 / 1.2, first and second cat, etc, as identifiers,  <b>OR</b> a reference to only one cat but using a <b>comparative</b> adjective ending in '-er' such as "shorter fur on wildcat", "second one looks tamer" or "second one is more tame", or, conversely, "wildcat looks less fierce".</p> <p><b>IGNORE</b> use of the word different. e.g. "they have different coloured fur" if there is no further statement about how they differ.  <b>IGNORE</b> answers that do not attempt to describe a difference at all, e.g. "fur length".</p> <p><b>IGNORE</b> albino</p>

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	(b) (i)	selective breeding / artificial selection ;	1	<b>FA (see guidance on page 2)</b> <b>IGNORE</b> evolution <b>DO NOT CREDIT</b> natural selection or speciation
	(ii)	(named type of) mutation / production of new alleles ;  sexual reproduction / meiosis / independent assortment / crossing-over ;	1	<b>FA</b> <b>ACCEPT</b> substitution / insertion / <u>base deletion</u> / gene mutation / random mutation as named types of mutation <b>DO NOT ACCEPT</b> chromosome mutation, discontinuous variation
	(c) (i)	(recessive) epistasis ;	1	<b>FA</b> <b>DO NOT ACCEPT</b> dominant epistasis or codominance
	(ii)	<b>BBDD ;</b> <b>BBDd ;</b>  <b>BbDD ;</b> <b>BbDd ;</b>	4	<b>CREDIT</b> answers written in any order but look for and tick off answers in the order given
	(iii)	<i>homozygous</i> (individual / cat / genotype with) 2 identical, alleles / version of the gene / forms of the gene ;  <i>gene locus</i> position / place / location, of, gene / allele, on chromosome ;	1  1	<b>ACCEPT</b> both, pair or idea of (same on) each for 2 idea <b>ACCEPT</b> same for identical and <b>CREDIT</b> description such as "both alleles either recessive or dominant" <b>DO NOT CREDIT</b> <i>genes</i> for alleles <b>DO NOT CREDIT</b> <i>similar</i> for identical or same  <b>CREDIT</b> "where / whereabouts the gene is on the chromosome" <b>CREDIT</b> DNA molecule for chromosome and <b>ACCEPT</b> DNA strand

Question		Answers	Mark	Guidance
	(iv)	<p>seal : blue : chocolate : lilac ;</p> <p>1 : 1 : 1 : 1 ;</p>	2	<p><b>IGNORE</b> absence of colons (:)</p> <p><b>CREDIT</b> phenotypes all correct in any order  <b>ACCEPT</b> dark brown for seal  <b>ACCEPT</b> light brown for chocolate</p> <p><b>ACCEPT</b> ratio of 1 : 1 : 1 : 1 as stand alone mark, even if only one, two or three colours stated for phenotypes  <b>DO NOT CREDIT</b> fractions, percentages or decimals  <b>CREDIT</b> ecf for ratio <b>only</b> if four colours stated e.g. "seal, lilac, chocolate, chocolate" (no mark) followed by ecf "1:1:2"</p>
(d)	(i)	<p><i>type of behaviour</i>                      innate / instinct(ive) / reflex ;</p> <p><i>characteristic</i></p> <p>automatic ;                      stereotyped / always performed in the same way ;                      no previous experience necessary / not learned ;                      genetic(ally programmed) / AW ;</p>	<p>1</p> <p>max 1</p>	<p><b>FA for each prompt line</b></p> <p><b>IGNORE</b> maternal (as given in question)</p> <p><b>IGNORE</b> instinctive in characteristic section</p> <p><b>ACCEPT</b> same in all members of the species  <b>ACCEPT</b> unlearned, not taught  <b>ACCEPT</b> inherited</p>

Question	Answer	Mark	Guidance																	
	<p>(ii)</p> <p>1 whether kittens, survive / breed ;</p> <p>2 whether <u>alleles</u>, change in frequency / passed on / kept ;</p> <p>3 correct reference to selection / how selection acts ;</p> <p>4 AVP ;</p> <p>5 AVP ;</p>	<p>max 2</p>	<p>Markpoints 1–3 are linked within 4 possible contexts. '1 t' refers to <b>good mothering behaviour</b> in the <b>domestic</b> environment (with people helping at the birth of kittens). Or candidates might say what would happen to the good behaviour patterns <b>in the wild</b>. Alternatively, the answer might focus on <b>bad mothering behaviour</b> (not licking the kittens), in either environment.</p> <table border="1" data-bbox="1330 517 2038 1155"> <thead> <tr> <th></th> <th data-bbox="1413 517 1729 557">domestic</th> <th data-bbox="1729 517 2038 557">in the wild</th> </tr> </thead> <tbody> <tr> <td data-bbox="1330 557 1413 863" rowspan="3" style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>good mothering</b></td> <td data-bbox="1413 557 1729 628">1 kittens do, survive / breed</td> <td data-bbox="1729 557 2038 628">1 kittens do, survive / breed</td> </tr> <tr> <td data-bbox="1413 628 1729 767">2 alleles not necessarily, passed on / kept</td> <td data-bbox="1729 628 2038 767">2 alleles, increase / passed on / kept</td> </tr> <tr> <td data-bbox="1413 767 1729 863">3 not selected for</td> <td data-bbox="1729 767 2038 863">3 selected for</td> </tr> <tr> <td data-bbox="1330 863 1413 1155" rowspan="3" style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>bad mothering</b></td> <td data-bbox="1413 863 1729 935">1 kittens do, (still) survive / breed</td> <td data-bbox="1729 863 2038 935">1 kittens do not, survive / breed</td> </tr> <tr> <td data-bbox="1413 935 1729 1074">2 alleles, increase / passed on / kept</td> <td data-bbox="1729 935 2038 1074">2 alleles, decrease <b>or</b> alleles not, passed on / kept</td> </tr> <tr> <td data-bbox="1413 1074 1729 1155">3 not selected against</td> <td data-bbox="1729 1074 2038 1155">3 selected against</td> </tr> </tbody> </table> <p>e.g. linkage (4) of poor mother, genes / alleles, with desirable alleles selected for in domestic cats (5)  <b>OR</b>  <u>genetic drift</u> (4) in small population (5)  <b>OR</b>                      pleiotropic / multi-effect genes (4) with a desirable effect and this side effect (5)</p>		domestic	in the wild	<b>good mothering</b>	1 kittens do, survive / breed	1 kittens do, survive / breed	2 alleles not necessarily, passed on / kept	2 alleles, increase / passed on / kept	3 not selected for	3 selected for	<b>bad mothering</b>	1 kittens do, (still) survive / breed	1 kittens do not, survive / breed	2 alleles, increase / passed on / kept	2 alleles, decrease <b>or</b> alleles not, passed on / kept	3 not selected against	3 selected against
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Question			Answer	Mark	Guidance
1	(e)	(i)	<p>1 inbreeding / small or decreasing, gene pool ;</p> <p>2 homozygous recessive (genotypes) ;</p> <p>3 gene / allele , for desired characteristic on same chromosome as problem, gene / allele ;</p> <p>4 selecting for one trait (unintentionally) selects for another ;</p> <p>5 breeders select for looks not health ;</p> <p>6 weaker selection against less healthy animals (than in wild) ;</p>	max 2	<p><b>ACCEPT</b> decreasing genetic variation <b>IGNORE</b> interbreeding</p> <p><b>CREDIT</b> good and bad genes, linked / show linkage</p>
		(ii)	<p>1 entrapment / alginate beads / cellulose network ;</p> <p>2 adsorption / carrier bound <b>or</b> stuck to , porous carbon / clay / resin / glass ;</p> <p>3 covalent bonding <b>or</b> cross-linking enzymes to each other and to clay (using glutaraldehyde) ;</p> <p>4 membrane separation <b>or</b> enzyme and substrate either side of partially permeable membrane ;</p>	max 2	<p><b>Mark the first 2 answers</b></p> <p><b>ACCEPT</b> encapsulation, inclusion</p> <p><b>IGNORE</b> absorption</p>
			<b>Total</b>	<b>21</b>	

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Question			Answer	Mark	Guidance
2	(a)	(i)	<p><b>T</b> mitochondrion / mitochondria ;</p> <p><b>U</b> Z line ;</p> <p><b>V</b> myofibril;</p>	3	<p><b>FA</b> for each line</p> <p><b>ACCEPT</b> nucleus</p> <p><b>CREDIT</b> zwischenscheibe line</p> <p><b>CREDIT</b> myofilaments</p> <p><b>ACCEPT</b> actin <b>and</b> myosin</p>
		(ii)	<p>sarcomere ;</p>	1	<p><b>FA</b></p> <p><b>DO NOT CREDIT</b> 'sacromere' (section 12 spelling rules apply)</p>
		(iii)	<p>energy storage ;</p> <p>hydrolyses / breaks down , to glucose ;</p> <p>(glucose / glycogen, for) respiration / to make ATP ;</p> <p>glycogen insoluble / glucose would exert osmotic effect ;</p>	max 2	<p><b>IGNORE</b> just 'provides energy' or source</p> <p><b>ACCEPT</b> converted to glucose, provides glucose</p>
		(iv)	<p>1.2 / 1.3 ; ;</p>	2	<p><b>Correct answer = 2 marks</b></p> <p>If answer is incorrect then <b>ALLOW 1 mark</b> for correct working -                      52 mm <b>or</b> 52 000 <math>\mu\text{m}</math> <b>or</b> 5.2 cm <math>\div</math> 42 000</p> <p>If answer is not correctly rounded to 1dp <b>ALLOW 1 mark</b> for unrounded answers, e.g.for 52 mm -                      1.238095 <b>or</b> 1.23</p> <p><b>ACCEPT</b> measurements in range 51–53 mm and corresponding unrounded figures -                      1.21428 or 1.21 or 1.261904 <b>or</b> 1.26</p>

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2	(b)	<p><i>A band</i> stays the same / no change ;</p> <p><i>H zone</i> decreases / shorter / smaller ;</p> <p><i>I band</i> decreases / shorter / smaller ;</p>	3	<b>ACCEPT</b> disappears
	(c)	<p>1 (<b><i>fewer</i></b>) Ca<sup>2+</sup> / calcium ions, bind to troponin ;</p> <p>2 (<b><i>fewer</i></b>) troponin (proteins) change shape ;</p> <p>3 (<b><i>fewer</i></b>) tropomyosin (proteins) move aside ;</p> <p>4 (<b><i>fewer</i></b>) binding sites on actin available ;</p> <p>5 (<b><i>fewer</i></b> actin-myosin) cross bridges / links, form / AW ;</p> <p>6 power stroke <b><i>reduced</i></b> / AW ;</p> <p>7 actin filaments pulled past myosin with <b><i>less</i></b> force ;</p> <p>8 ref. pH and denaturing of proteins ;</p> <p><b>QWC</b> – at least <b>two</b> given mark points also indicate idea in bold italics ;</p>	max 5	<p>'Fewer' not needed to award mps 1 to 5 but is required twice for QWC. <b>ACCEPT</b> less / decreased for 'fewer'. <b>ACCEPT</b> mps 1-5 if event described said not to occur at all but don't award QWC green spot for this.</p> <p>1 <b>IGNORE</b> 'reduced ability of Ca<sup>2+</sup> to bind' for QWC</p> <p>2 "Troponin does not change shape as much" gets mp 2 but not QWC</p> <p>4 <b>ACCEPT</b> thin filament for actin <b>ACCEPT</b> actin-myosin binding sites or binding sites for myosin heads, available / exposed</p> <p>6 <b>IGNORE</b> reduction in force of contraction <b>DO NOT ACCEPT</b> fewer power strokes</p> <p>7 <b>IGNORE</b> reduction in force of contraction</p> <p>8 <b>ACCEPT</b> description e.g. "H<sup>+</sup> changes protein's 3D structure" and allow reference to enzyme or to ATPase</p>
			1	
<b>Total</b>			<b>17</b>	

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3	(a)	DNA (combined) from (two) , sources / organisms ;	1	<b>ACCEPT</b> DNA, contains / has inserted in it, DNA or gene from, other / another, organism / species <b>ACCEPT</b> foreign for idea of other source										
	(b)	<table border="1"> <thead> <tr> <th>application of genetic modification</th> <th>vector</th> </tr> </thead> <tbody> <tr> <td>goats making spider silk protein</td> <td>BAC / YAC / virus / liposome ;</td> </tr> <tr> <td>somatic gene therapy for a recessive human genetic disorder</td> <td>virus / liposome ;</td> </tr> <tr> <td>plants that express a bacterial toxin that kills insects feeding on them</td> <td><i>Agrobacterium tumefaciens</i>/ (Ti) plasmid / liposome ;</td> </tr> <tr> <td>bacteria that produce a human protein for therapeutic use</td> <td>BAC / (bacterio)phage / plasmid ;</td> </tr> </tbody> </table>	application of genetic modification	vector	goats making spider silk protein	BAC / YAC / virus / liposome ;	somatic gene therapy for a recessive human genetic disorder	virus / liposome ;	plants that express a bacterial toxin that kills insects feeding on them	<i>Agrobacterium tumefaciens</i> / (Ti) plasmid / liposome ;	bacteria that produce a human protein for therapeutic use	BAC / (bacterio)phage / plasmid ;	4	<b>FA in each box</b> <b>DO NOT CREDIT</b> microinjection / electroporation / gene gun (as they are not vectors)  <b>IGNORE</b> tumour forming bacterium
application of genetic modification	vector													
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3	(c)	<p>1 somatic / adult, cell / nucleus ;</p> <p>2 fused with / injected into ;</p> <p>3 empty / enucleate , egg cell ;</p> <p>4 from another goat ;</p> <p>5 <i>idea of</i> electric shock / electrostimulation ;</p> <p>6 this cell or embryo, grown on , in vitro / in tied oviduct ;</p> <p>7 (early) embryo / blastocyst , split ;</p> <p>8 <i>idea that</i> embryos replaced in , surrogate mothers / other females ;</p> <p>9 AVP ;</p>	max 5	<p><b>1 ACCEPT</b> differentiated or body cell or example, e.g. skin cell, udder cell</p> <p><b>2 ACCEPT</b> inserted / placed. If term use is "electrofused" gets mp 2 and mp 5</p> <p><b>4 ACCEPT</b> named (A, B) or numbered goats</p> <p><b>5</b> "electrofused" gets mp 2 and mp 5</p> <p><b>6 ACCEPT</b> in petri dish / test tube culture</p> <p><b>7 ACCEPT</b> description of an embryo being split, even if produced by wrong method (IVF)</p> <p><b>8 IGNORE</b> host mothers</p> <p><b>9</b> e.g. further detail of any stage of process correct ref. to haploid / diploid , nuclei</p>

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3	(d)	<p><i>advantages</i></p> <p><b>A1</b> all offspring will inherit the, (silk) gene / foreign DNA ;</p> <p><b>A2</b> all offspring female ;</p> <p><b>A3</b> certain / all make , silk / milk / product ;</p> <p><b>A4</b> faster / many obtained in a short time ;</p> <p><b>A5</b> avoid mating risks ;</p> <p style="text-align: right;"><b>max 3 advantages</b></p> <p><i>disadvantages</i></p> <p><b>D1</b> no genetic variability (in population) / AW ;</p> <p><b>D2</b> (so makes goats) more susceptible to, environmental factors / (infectious) disease ;</p> <p><b>D3</b> cloned animals may, have shorter life spans / be less healthy ;</p> <p><b>D4</b> <i>idea that</i> cloning success rate is very poor ;</p> <p><b>D5</b> (more) expensive / needs (more) technology / (more) labour intensive ;</p> <p style="text-align: right;"><b>max 3 disadvantages</b></p>	5 max	<p><b>IGNORE</b> disadvantages of breeding given in the first (advantages of cloning) section, i.e. <b>DO NOT CREDIT</b> reverse arguments</p> <p><b>A5 ACCEPT</b> idea of physical damage or disease transfer</p> <p><b>IGNORE</b> advantages of breeding given in the second (disadvantages of cloning) section, i.e. <b>DO NOT CREDIT</b> reverse arguments</p> <p><b>D1 ACCEPT</b> they are all genetically identical</p> <p><b>D2 IGNORE</b> disease if stated to be genetic</p>
		<b>Total</b>	<b>15</b>	

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4	(a)	<p><i>fungal</i> long cells / hyphae OR multinucleate OR <u>chitin</u> cell wall ;</p> <p><i>bacterial</i> free DNA / DNA not in a nucleus OR circular DNA (molecule) OR naked DNA / no histones OR peptidoglycan / murein, cell wall OR smaller / 70S / 18nm, ribosomes ;</p>	1	<p><b>FA for each microorganism</b> <b>IGNORE</b> prokaryotic / eukaryotic (as given in question)</p>
			1	<p><b>ACCEPT</b> no nucleus / nuclear envelope <b>IGNORE</b> loop, plasmids, nucleoid</p>
	(b)	<u>disease-causing</u> (organism) ;	1	<b>IGNORE</b> harmful, infection

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4	(c)	<p><i>What is biotechnology?</i></p> <p>1 large-scale / industrial / commercial use (of living organisms / enzymes) ;</p> <p>2 to produce , food / named example ;</p> <p>3 detail of , microbe / enzyme , involved ;</p> <p>4 to produce , drugs / named example ;</p> <p>5 detail of , microbe / enzyme , involved ;</p> <p>6 to make , (useful) enzymes / biogas / calcium citrate / for bioremediation / for water treatment / for microbial mining ;</p> <p><i>Advantages of microorganisms</i></p> <p>7 fast, growth / reproduction / products ;</p> <p>8 microbes can be genetically engineered ;</p> <p>9 processes occur at low , temperatures / pressures ;</p> <p>10 low , temp / pressure , cheaper / safer , to maintain ;</p> <p>11 products , pure / easy to separate ;</p> <p>12 grow on unwanted, food / nutrients ;</p> <p>13 AVP ;</p> <p><b>QWC</b> – balanced account ;</p>	7 max	<p>2 e.g. cheese / yogurt / beer / wine / cider / vinegar / soya sauce / mycoprotein / etc.</p> <p>3 e.g. <i>Lactobacillus</i> / yeast / <i>Fusarium</i> / etc. <b>IGNORE</b> wrong kingdom</p> <p>4 e.g. antibiotic / penicillin / augmentin / insulin</p> <p>5 e.g. <i>Penicillium</i> <b>IGNORE</b> wrong kingdom</p> <p>6 e.g. detergent enzymes, pectinase, sewage treatment, blue technology</p> <p>8 <b>ACCEPT</b> in context of example mps 1 - 6</p> <p>10 <b>CREDIT</b> less energy used for low, temp /pressure</p> <p>11 <b>ACCEPT</b> little downstream processing</p> <p>12 <b>ACCEPT</b> named e.g. whey, starch waste.</p> <p>13 e.g. no animal welfare issues</p> <p>Award QWC if 2 marks awarded from mps 1 – 6 <b>and</b> 2 marks awarded from mps 7 – 13</p>
		<b>Total</b>	<b>11</b>	

Question			Answer	Mark	Guidance
5	(a)	(i)	succession ;	1	<b>FA</b> <b>IGNORE</b> primary / secondary
		(ii)	<u>mineral</u> content ; acidity / pH ; water depth;	2	<b>FA</b>
	(b)		<i>similarity</i> chlorophyll breaks down / leaves change colour ;  <i>differences</i>  (bog) minerals stay in plant / (forest) minerals in soil ; <b>ora</b> decomposers / fungi / bacteria , not, present / active in bog ; <b>ora for forest</b>	1      2	<b>FA for similarity</b>  <b>Mark first two answers for differences</b>  <b>ACCEPT</b> named mineral ions in words or correct symbols <b>ACCEPT</b> decomposers / fungi / bacteria, break down leaves in forest
	(c)		decomposers / named decomposers, not, present / active ;  waterlogging reduces, air / oxygen ;  acidity / low pH , stops (decay) enzymes working ;	2 max	<b>ACCEPT</b> (soil), bacteria / fungi / microbes can't survive or few can survive  <b>CREDIT</b> waterlogging produces anaerobic conditions
	(d)		bog / habitat / ecosystem, takes a long time to form / hard to replace ;  loss of, biodiversity / rare species ;	2	<b>ACCEPT</b> peat bogs maintain biodiversity
<b>Total</b>				<b>10</b>	

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6	(a)	(i)	larger territory / greater distance between neighbours = lower predation ;	1	<b>ACCEPT</b> ora - smaller territory / smaller distance = higher predation <b>DO NOT CREDIT</b> descriptions wrong way round
		(ii)	<p>1 great tit numbers, oscillate / rise and fall ;</p> <p>2 (weasel predation) helps keep great tit numbers stable ;</p> <p>3 predation (by weasels) is <u>density-dependent</u> ;</p>	2 max	<p><b>IGNORE</b> weasel population size</p> <p><b>ACCEPT</b> keeps great tit numbers moderate</p>
	(b)	(i)	<p><i>two areas</i> as a control / for comparison / to see the effect of removal of starfish ;</p> <p><i>same size</i> to make test, valid / fair / unbiased ;</p>	2	<p><b>IGNORE</b> reliable, precise, accurate</p> <p><b>CREDIT</b> 'as a valid control' = 2 marks</p>
		(ii)	<p><u>interspecific</u> competition ;</p> <p>(competition from) , barnacles / mussels ;</p> <p>for, algae / space ;</p> <p>barnacles / mussels , no longer eaten by starfish ;</p>	2 max	<p><b>IGNORE</b> intraspecific competition</p> <p><b>ACCEPT</b> description e.g. barnacles / mussels, eat food of, limpets / chitons</p> <p><b>IGNORE</b> food</p>
		(iii)	<p>sponges outcompeted (by , barnacles / mussels) ;</p> <p>less, prey / food / sponges, for nudibranchs to eat ;</p> <p><i>idea of specialist feeder</i> ;</p>	2 max	<p><b>IGNORE</b> 'sponge population decreases' alone (as given in question)</p> <p><b>CREDIT</b> nudibranchs <b>only</b> feed on sponges</p>
<b>Total</b>				<b>9</b>	

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7	(a)	(i)	polar <b>and</b> brown bear ;	1	
		(ii)	<i>no because</i> one, more closely related to / in same group as , raccoons <b>and</b> one , to / with, bears / AW ;	1 max	<b>DO NOT CREDIT</b> answer if in context of yes
	(b)	(i)	knowledge , tentative / uncertain / subject to change ; to re-test / check, hypotheses / results ;	2	<b>IGNORE</b> incomplete, new technology <b>IGNORE</b> to validate
		(ii)	<p><b>1</b> <i>idea that</i> haemoglobin could be , an <u>adaptation</u> (to the environment) / an <u>adaptive</u> feature ;</p> <p><b>2</b> <i>idea that</i> low oxygen partial pressure is selective agent <b>or</b> both subject to the same selection pressure ;</p> <p><b>3</b> (haemoglobin of both) has high oxygen affinity / dissociation curve shifted to left ;</p> <p><b>4</b> convergence / similarity not due to shared ancestry ;</p>	3 max	<p><b>3</b> <b>ACCEPT</b> haemoglobin can uptake O<sub>2</sub> at low partial pressure</p> <p><b>4</b> <b>ACCEPT</b> description e.g. “changes happen to both independently” <b>IGNORE</b> “red and giant panda may not be closely related” (as given in question)</p>

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Question		Answer	Mark	Guidance
	(c)	<p><b>step 2</b> PCR / polymerase chain reaction ;</p> <p><b>step 3</b> genetic modification / genetic engineering ;</p> <p><b>step 4</b> electrophoresis ;</p>	3	<p><b>FA on each line</b></p> <p><b>ACCEPT</b> gene cloning / transformation</p> <p><b>ACCEPT</b> (gel) chromatography</p>
	(d)	<p>triplet code <b>or</b> 3 bases = 1 amino acid ;</p> <p>525 ;</p> <p>3 bases are , stop / (chain) termination , codon ;</p>	3	<b>DO NOT CREDIT</b> triplet makes amino acid
	(e)	(i)	ox ;	1 <b>FA</b>
		(ii)	<p><b>1</b> genetic code is degenerate ;</p> <p><b>2</b> more than 1, triplet / codon, for same amino acid ;</p> <p><b>3</b> silent / neutral, mutations ;</p> <p><b>4</b> <i>idea that</i> DNA, changes more than / is more different to, protein ;</p>	3 max <b>1 ACCEPT</b> redundant <b>2 DO NOT CREDIT</b> 'make' the same amino acid  <b>4 ACCEPT</b> polypeptide / amino acid sequence <b>ACCEPT</b> nucleotide sequence for DNA
			<b>Total</b>	<b>17</b>