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Many different types of animals are produced using selective breeding.  
Some cats are selectively bred so that they do not cause allergies in people.

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1
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Suggest **two other** reasons why people might selectively breed cats.

**[2 marks]**

1

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2

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Selective breeding could cause problems of inbreeding in cats.

Describe **one** problem inbreeding causes.

**[1 mark]**

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**0 3** . **3** Many people have breathing problems because they are allergic to cats.

The allergy is caused by a chemical called Fel D1.

Different cats produce different amounts of Fel D1.

A cat has been bred so that it does not produce Fel D1.

The cat does **not** cause an allergic reaction.

Explain how the cat has been produced using selective breeding.

**[4 marks]**

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**Turn over for the next question**

**Question 3**

Question	Answers	Extra information	Mark	AO / Spec. Ref.
03.1	any <b>two</b> from: <ul style="list-style-type: none"> <li>so that they do not have specific genetic defects</li> <li>to produce docile cats or so they are not aggressive</li> <li>for aesthetic reasons</li> </ul>	allow descriptions of aggression such as biting and scratching  allow descriptions of suitable aesthetic reasons	2	AO1/1 4.6.2.3
03.2	(cats) are more likely to pass on (recessive) disorders <b>or</b> more likely to be susceptible to diseases		1	AO1/1 4.6.2.3
03.3	<b>Level 2:</b> A detailed and coherent explanation is given, which logically links the process of selective breeding with explanations of how this produces cats that do not cause allergic reactions.		3–4	AO2/1 4.6.2.3
	<b>Level 1:</b> Simple statements relating to process of selective breeding, but no attempt to link to explanations.		1–2	
	No relevant content		0	
	<b>Indicative content</b>  <b>process:</b> <ul style="list-style-type: none"> <li>parents with the desired characteristic are selected</li> <li>the parents are bred together to produce offspring</li> <li>offspring with the desired characteristics are selected and bred</li> <li>this is repeated over many generations.</li> </ul> <b>explanations:</b> <ul style="list-style-type: none"> <li>parents who produce the least Fel D1 are initially selected</li> <li>in their offspring there will be individuals with differing amounts of Fel D1 produced</li> <li>of these, in each generation, the lowest Fel D1 producing individuals are chosen</li> <li>care is taken to ensure cats are healthy and avoid possible problems associated with selective breeding</li> <li>over time the population of (selectively bred) cats will produce less Fel D1</li> </ul>			
<b>Total</b>			<b>7</b>	