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ANSWERS

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Monoclonal antibodies and their uses



H 1 What type of cells make monoclonal antibodies? (1 mark, ★)

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H 2 Describe how monoclonal antibodies work. (2 marks, ★★★)

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NAILIT!



Recall that antibodies are complementary in shape to their antigen.

H 3 A scientist wants to make large amounts of monoclonal antibody specific to a particular antigen. Explain how these can be made using mouse lymphocytes. (5 marks, ★★★)

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H 4 Give **two** uses of monoclonal antibodies. (2 marks, ★)

i ii

H 5 What are the possible side effects of using monoclonal antibodies to treat diseases? (2 marks, ★★★)

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H 6 Describe the advantages and disadvantages of using monoclonal antibodies to treat diseases. Include the idea of specificity in your answer. (3 marks, ★★★)

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NAILIT!



Think about any ethical issues of how monoclonal antibodies are made.

Plant diseases and defences

① What is chlorosis and what is it caused by? (2 marks, ★)

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② Which one of the following statements is not true? Tick one box. (1 mark, ★★)

Rose black spot causes stunted growth.	<input type="checkbox"/>
Aphids are pests that cause malformed stems.	<input type="checkbox"/>
Tobacco mosaic virus causes discolouration of the leaves.	<input type="checkbox"/>

H ③ How can you identify a plant disease? (2 marks, ★★★)

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④ A gardener is examining plants in a greenhouse and notices that some have a nitrate deficiency.


a How does the gardener know that the plants have nitrate deficiency? (2 marks ★★★)

.....

b Explain why plants needs nitrates. (2 marks, ★★★★★)

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NAIL IT!

Think about which biological molecules contain nitrogen.

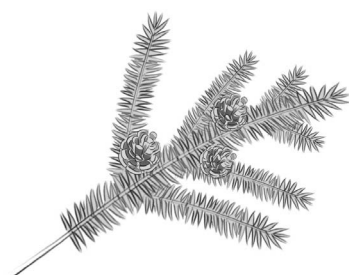
⑤ Name two physical plant defences. (2 marks, ★)

i ii

⑥ Describe a chemical plant adaptation and how it protects the plant. (2 marks, ★★★)

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⑦ The image shows a branch of a pine tree.




What mechanical adaptations shown in the image does this plant have to ensure its survival? Explain the purpose of each mechanical adaptation. (4 marks, ★★★★★)

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NAIL IT!

Mechanical adaptations alter the plant's structure.