1 *Conus magus* is a large tropical sea snail.



(a) The sea snail feeds on fish.

When it detects a fish it fires a hook into it.

The hook contains a powerful poison which paralyses the fish.

The poison stops the release of neurotransmitters.

Explain how this paralyses the fish.

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..... **[2]**

(b) Scientists are investigating the poison produced by the snail.

They think that it could be used as a painkiller in humans.

Describe how a double-blind trial would be designed to see if the poison works.

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..... **[2]**

[Total: 4]

2 Look at the picture of a prescription drug with the brand name Deflex.



(a) Emma has difficulty sleeping.

Her doctor prescribes Deflex.

Deflex is a drug which affects the nervous system.

Suggest and explain how Deflex affects the nervous system to help Emma sleep.

The quality of written communication will be assessed in your answer to this question.

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..... **[6]**

(b) Deflex does **not** work if Emma drinks coffee.

Suggest why.

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..... **[2]**

[Total: 8]