OCR GCSE 21ST CENTURY BIOLOGY B · J257

BIOLOGY



EXAM QUESTION PACK

B6.4 HOW IS BIODIVERSITY THREATENED AND HOW CAN WE PROTECT IT? (FOUNDATION)

SCORE	PERCENTAGE
/41	%

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1(a). In some areas of the UK, dogwhelk numbers are decreasing. This reduces biodiversity.

Give **two** benefits of maintaining biodiversity.

1 _____

_____

2 _____

_____

[2]

(b). Sea anemones can reproduce asexually.

Give **one** advantage and **one** disadvantage of this method of reproduction.

Advantage _____

_____

Disadvantage _____

_____

[2]

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(c).

(i) Sea anemones are mainly found in rock pools.

During the summer the water temperature in a rock pool can increase to a level which can be dangerous for a sea anemone.

Put a tick (✓) in the box that best explains why this temperature increase is a problem.

Enzyme catalysed reactions will speed up.	☐
Enzyme catalysed reactions will slow down.	☐
Enzymes will be killed.	☐
Enzymes will become denatured.	☐

[1]

(ii) When it rains, the concentration of the sea water in a rock pools decreases.

What effect will this change in concentration have on a sea anemone's cells?

Put a tick (✓) in the box next to the correct answer.

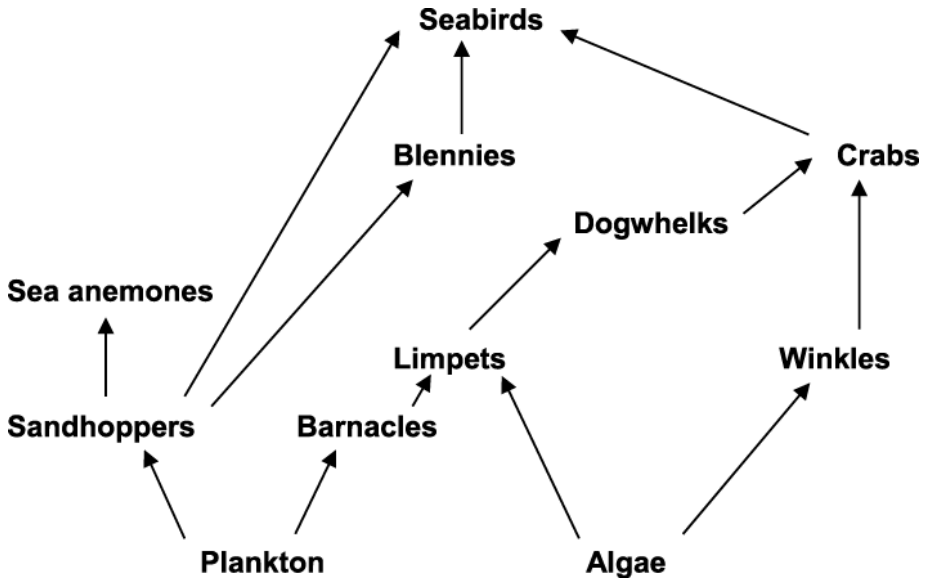
Some cells may burst.	☐
Some cells may shrink.	☐
There will be no change to the cells.	☐
Some cells will burst, others will shrink.	☐

[1]

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(d). This is a food web for the species that can live on a rocky shore.



Explain the impact of an increase in the number of dogwhelks on one species in this food web.

---

[2]

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2. The Neanderthal species is now extinct.

Explain what could have caused the Neanderthals to become extinct.

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

[6]

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3. Which of the following statements are possible consequences of using nanotechnology in the food industry?

Put ticks (✓) in the boxes next to the **two** correct answers.

It reduces demand for food. ☐

More shops can sell the food. ☐

Farmers need less equipment to produce food. ☐

It increases the shelf life of food. ☐

It makes food taste worse. ☐

It detects contaminants in food. ☐

[2]

4(a). During the last 100 years, the area of England's natural woodland has been getting smaller.
The trees are being used as timber and the land converted to farmland.

Suggest what this is doing to biodiversity.

---

[1]

(b). Suggest how English woodland could be made sustainable.

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[2]

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5. Rafael is a farmer living in the Brazilian rainforest.
Rafael wants to manage his farming in a sustainable way.
Explain how Rafael can do this.

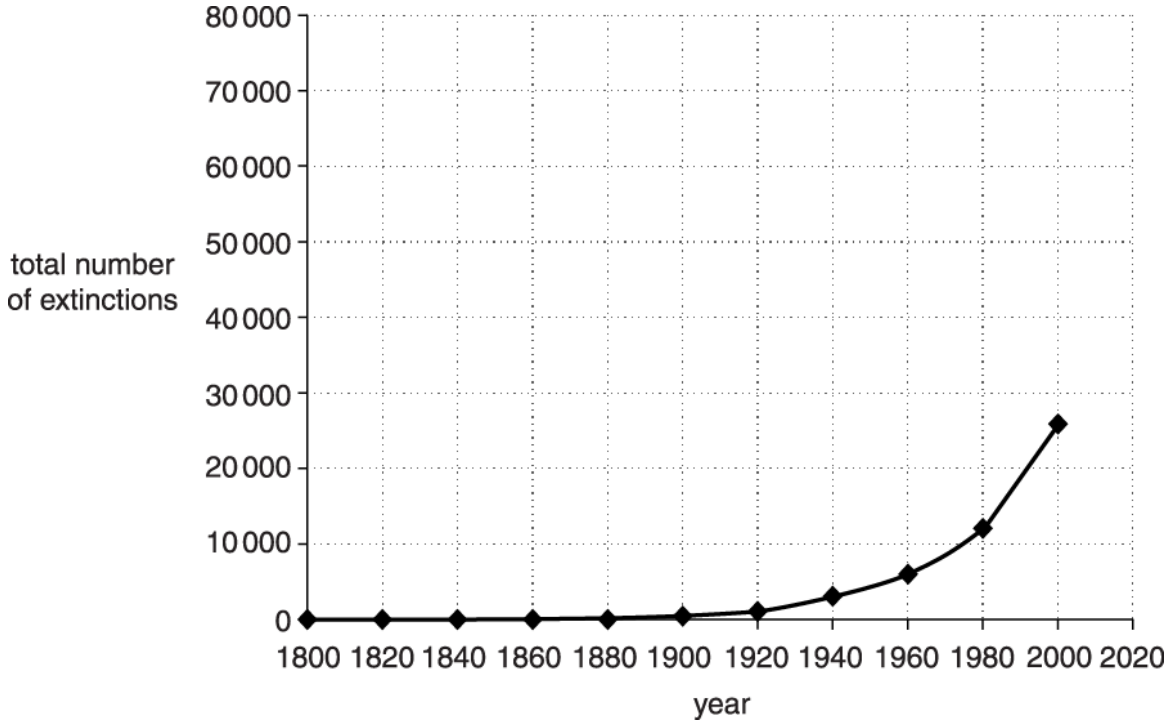
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[2]

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6(a). Species that no longer exist are said to be extinct.

The graph shows the estimated total number of extinctions worldwide since 1800.



(i) Describe the pattern shown by the graph.

_____

_____

_____

_____ [2]

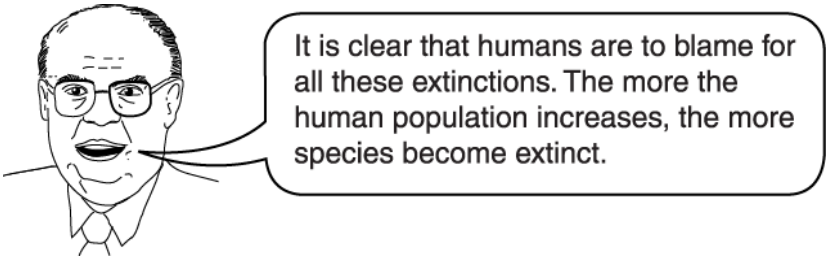
(ii) Continue the line on the graph to predict how many species are likely to have become extinct by 2020.

number of extinct species by 2020 = _____ [1]

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(b). Boris says:



(i) Explain one reason why species extinctions increase as the human population increases.

---

[2]

(ii) Suggest and explain which part of Boris' conclusion is likely to be incorrect.

---

[1]

(c). Scientists try to prevent species becoming extinct.

Which of the following are reasons why scientists do this?

Put ticks (?) in the boxes next to the **two** best reasons.

Preventing extinctions is easy to do.	☐
Many plants and animals are dangerous.	☐
Biodiversity is important for sustainability.	☐
Scientists always work together in teams.	☐
Some plants and animals provide us with vital resources.	☐

[2]

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7. A way to control insect pests is to use biological control.

Biological control is when a farmer releases a new predator that kills the insect pest.

Describe **three** possible ways that releasing a new predator to kill the pests could affect the food web.

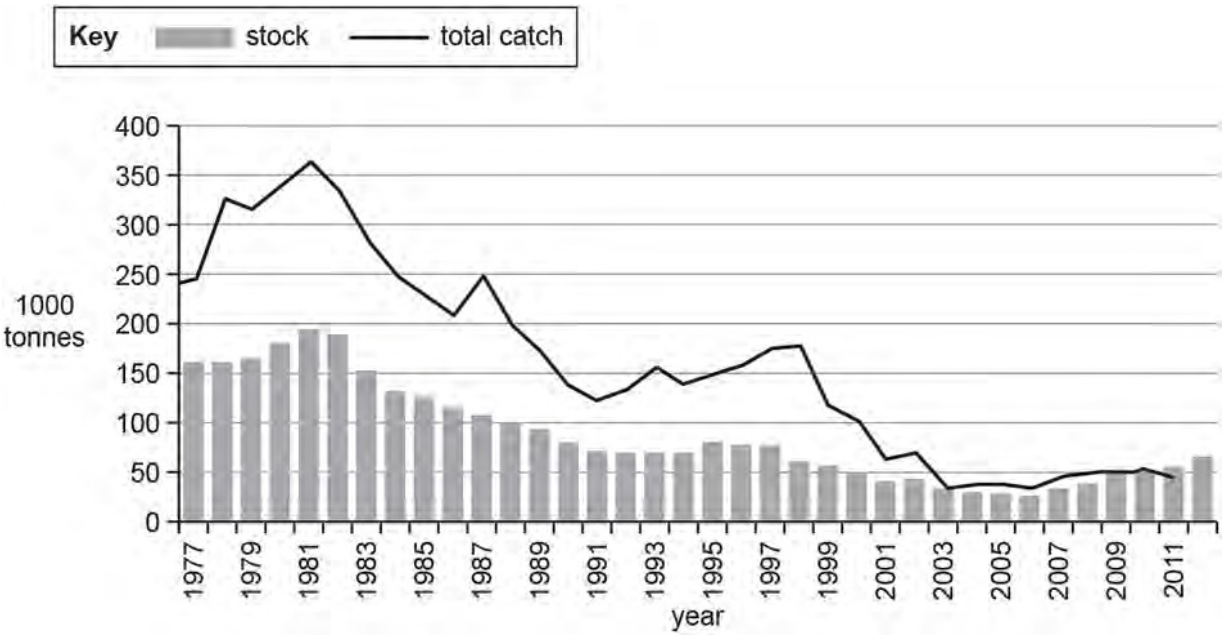
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[3]

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8. Cod is a type of fish that is served in fish and chip shops. Much of the cod sold in fish and chip shops is caught in the North Sea.

The graph shows the stocks of cod in the North Sea off the coast of Britain and the amount of cod caught (total catch).



(i) Describe and explain the trend shown in the graph.

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[3]

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(ii) In 2002 very little cod was served in fish and chip shops, instead haddock was used.

Use the graph to explain why cod was removed from the menu.

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[1]

(iii) Human activities are having an impact on the biodiversity of the Earth.

Explain why it is important to conserve biodiversity.

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[2]

(iv) Fish such as cod reproduce sexually.

Give one advantage of cod reproducing sexually.

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[1]

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9. Insecticides called neonics are widely used by farmers.

Neonics kill insect pests that live on crop plants.

Explain why a farmer would want to use neonics to kill insects that live on their crops.

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[2]

END OF QUESTION PAPER

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