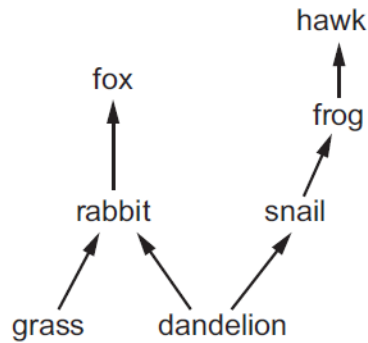


## Organisms and their environment – 2021 IGCSE 0610

1. **Nov/2021/Paper\_11/No.36**

The diagram shows a woodland food web.



Which statement is **not** correct?

- A Dandelions and grass are both producers.
- B The fox and the hawk are both tertiary consumers.
- C The frog is a secondary consumer.
- D The rabbit and the snail are both primary consumers.

2. **Nov/2021/Paper\_11/No.37**

Which organism makes its own organic nutrients using light energy?

- A producer
- B consumer
- C herbivore
- D carnivore

3. **Nov/2021/Paper\_11/No.38**

Which process releases carbon dioxide into the atmosphere?

- A decomposition
- B fossilisation
- C photosynthesis
- D transpiration

4. Nov/2021/Paper\_11/No.39

Which row shows what is used to make biofuel, bread and fruit juice?

|   | biofuel   | bread     | fruit juice |
|---|-----------|-----------|-------------|
| A | pectinase | pectinase | yeast       |
| B | pectinase | yeast     | pectinase   |
| C | yeast     | pectinase | yeast       |
| D | yeast     | yeast     | pectinase   |

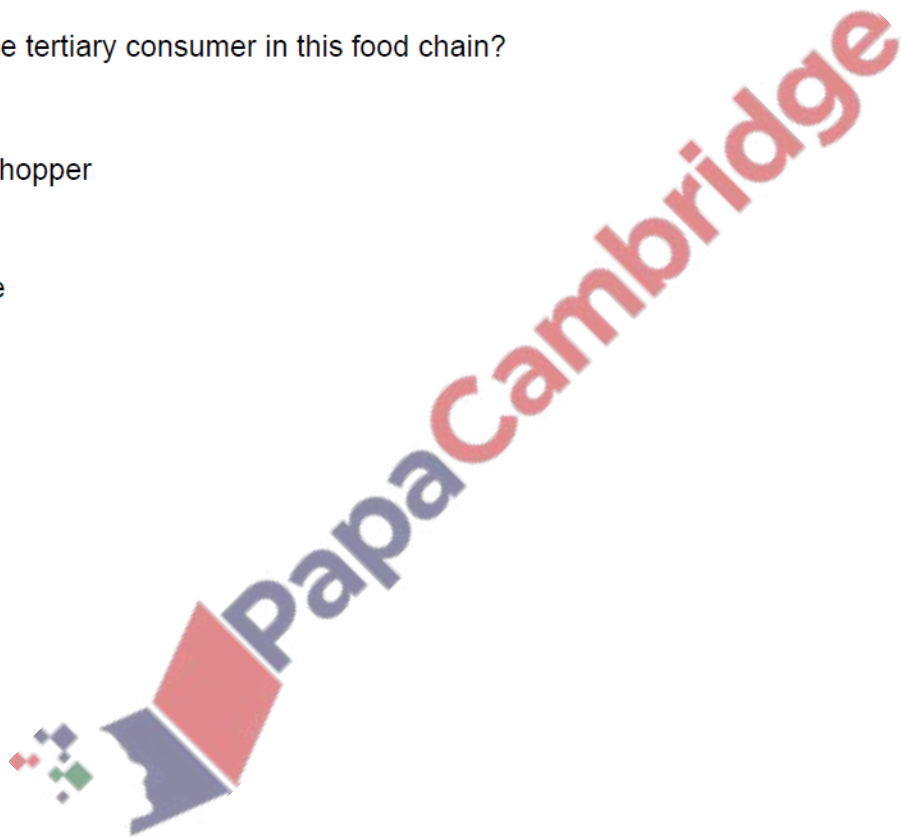
5. Nov/2021/Paper\_12/No.36

The diagram shows a food chain.

grass → grasshopper → frog → snake → hawk

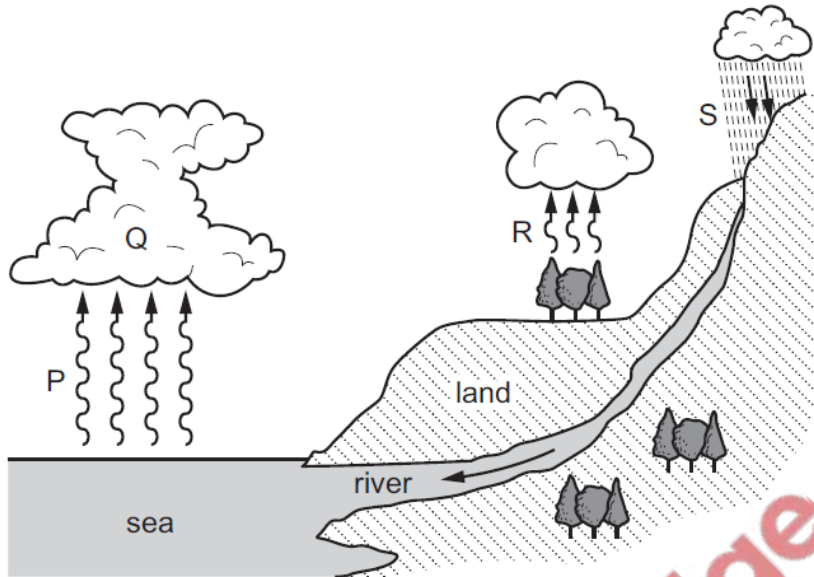
What is the tertiary consumer in this food chain?

- A frog
- B grasshopper
- C hawk
- D snake



6. Nov/2021/Paper\_12/No.37

The diagram shows the water cycle.



The table shows the processes involved in the water cycle.

Which row is correct?

|          | condensation | evaporation | precipitation | transpiration |
|----------|--------------|-------------|---------------|---------------|
| <b>A</b> | P            | Q           | R             | S             |
| <b>B</b> | R            | S           | Q             | P             |
| <b>C</b> | S            | R           | P             | Q             |
| <b>D</b> | Q            | P           | S             | R             |

7. Nov/2021/Paper\_12/No.40

What are reasons why species become endangered?

- A** habitat destruction, hunting and introduced species
- B** habitat protection, introduced species and monitoring
- C** habitat destruction, hunting and captive breeding programmes
- D** hunting, pollution and seed banks

8. Nov/2021/Paper\_21/No.35

A species of insect usually has pale-coloured wings. This helps to camouflage them on pale-coloured tree trunks. A few of the insects in this species have darker coloured wings.

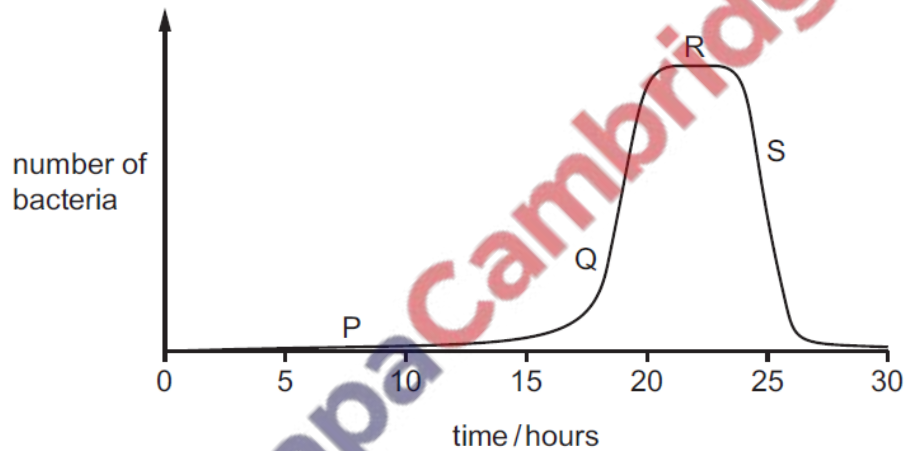
After a number of years the tree trunks become darker in colour due to environmental changes. The insects with dark-coloured wings become more common than insects with pale-coloured wings in this species.

Which process causes this change in the proportion of insects with dark-coloured wings?

- A biotechnology
- B conservation
- C natural selection
- D selective breeding

9. Nov/2021/Paper\_21/No.36

The graph shows the growth curve for a population of bacteria.



The table identifies each phase shown in the graph.

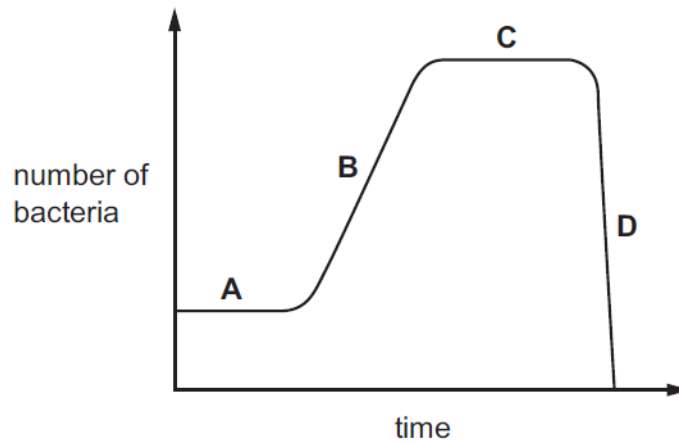
Which row is correct?

|          | death phase | exponential (log) phase | lag phase | stationary phase |
|----------|-------------|-------------------------|-----------|------------------|
| <b>A</b> | P           | Q                       | R         | S                |
| <b>B</b> | S           | Q                       | P         | R                |
| <b>C</b> | S           | P                       | Q         | R                |
| <b>D</b> | P           | S                       | R         | Q                |

10. Nov/2021/Paper\_22/No.34

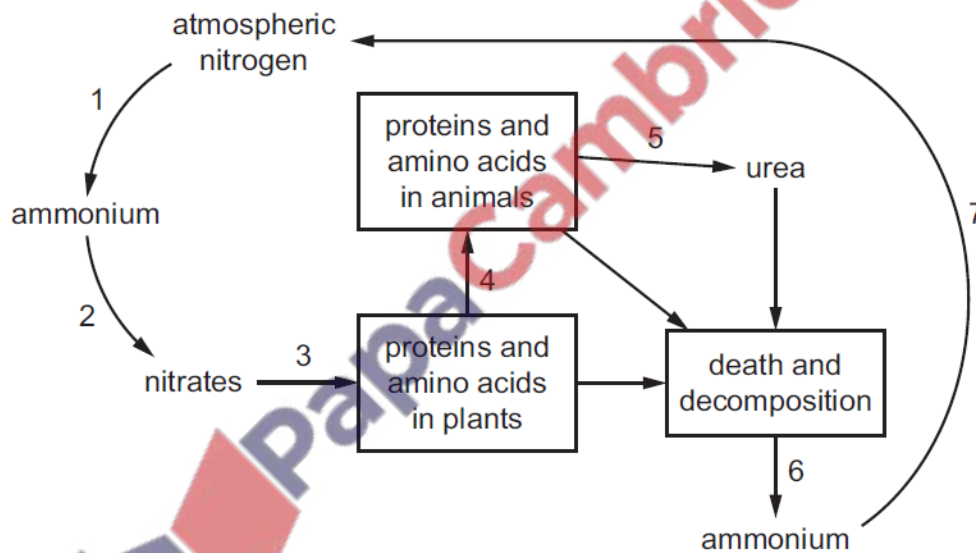
The graph shows the growth of a bacterial population.

Which section represents the exponential (log) phase?



11. Nov/2021/Paper\_22/No.36

The diagram shows part of the nitrogen cycle.



Which processes are carried out by bacteria?

- A 1, 2, 3 and 4
- B 1, 2, 4 and 5
- C 1, 2, 5 and 6
- D 1, 2, 6 and 7

12. Nov/2021/Paper\_22/No.39

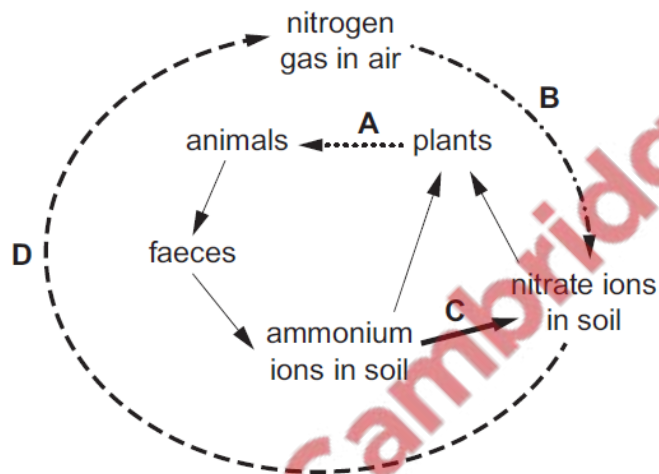
What are reasons why species become endangered?

- A habitat destruction, hunting and introduced species
- B habitat protection, introduced species and monitoring
- C habitat destruction, hunting and captive breeding programmes
- D hunting, pollution and seed banks

13. Nov/2021/Paper\_23/No.36

The diagram shows part of the nitrogen cycle.

Which letter represents denitrification?



(a) Define the term population by completing the sentence.

A population is a group of organisms of one ....., living in the same ....., at the same ..... [3]

(b) The human population size of one country was monitored between 1950 and 2010.

Fig. 8.1 shows the results.

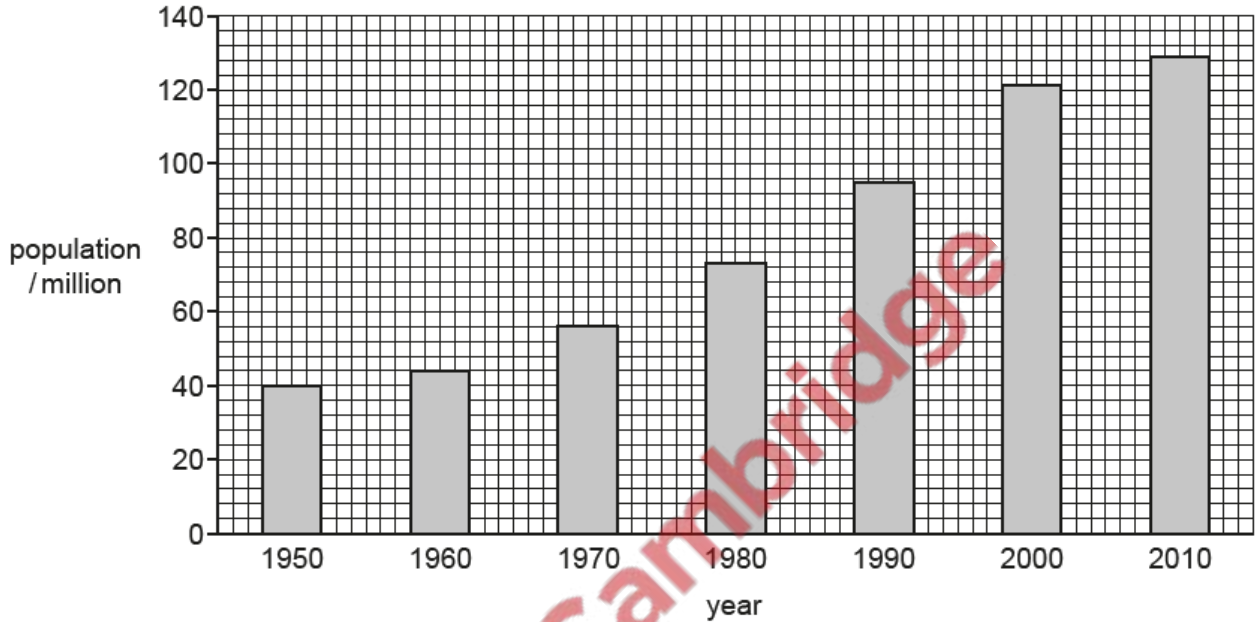


Fig. 8.1

(i) Calculate the difference in population size between 1950 and 2010.

..... million [1]

(ii) State the year when the population size was 56 million.

..... [1]

(c) State three factors that can cause an increase in population size.

1 .....

2 .....

3 .....

[3]





Carbon is a part of many biological molecules.

(a) Fig. 6.1 is a diagram of part of the carbon cycle.

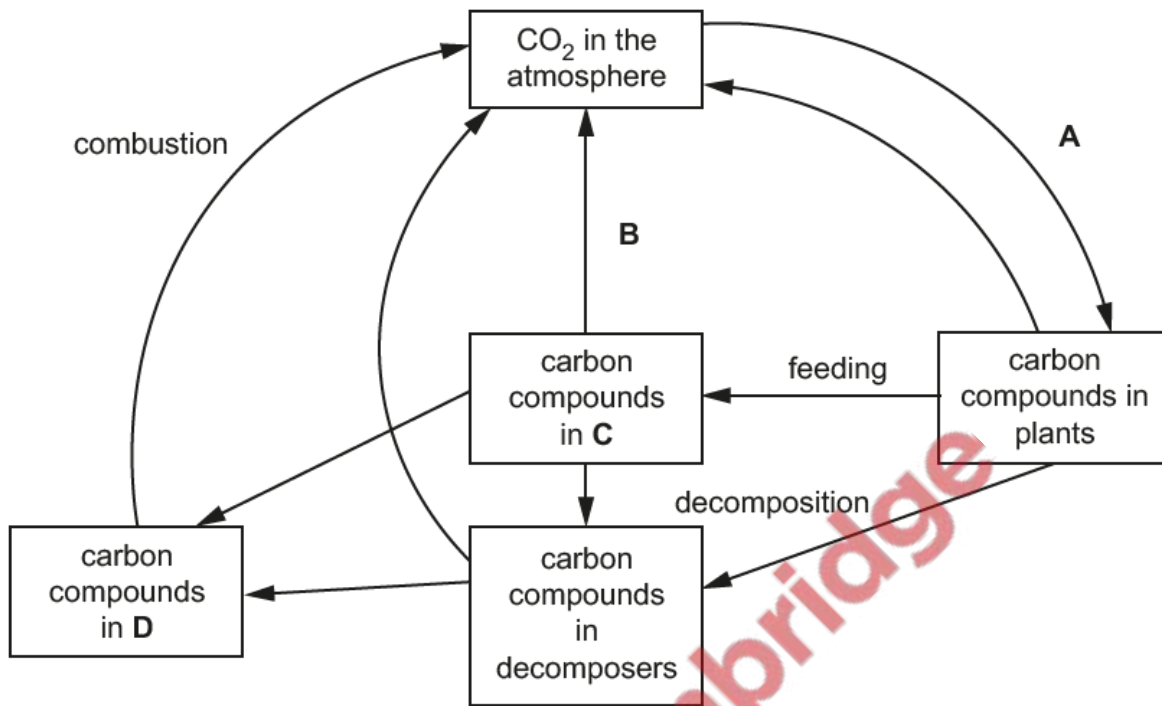


Fig. 6.1

(i) State the name of the process labelled A.

..... [1]

(ii) State the name of the process labelled B.

..... [1]

(iii) State the name of C.

..... [1]

(iv) State the name of D.

..... [1]

(b) Describe the undesirable effects of deforestation.

.....

.....

.....

.....

.....

.....

.....

.....

..... [3]

(c) Methane is a gas that pollutes the atmosphere.

(i) State **one** source of the methane that pollutes the atmosphere.

..... [1]

(ii) State the effects of an increased concentration of methane in the atmosphere.

.....

.....

.....

.....

.....

..... [2]

[Total: 10]

