Practice Question Set For GCSE
Subject : Biology
Paper-1 Topic: B4 Bioenergetics

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Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Q1.

Eukaryotic cells respire continuously to transfer energy.

(a) Give **two** uses of energy transferred by respiration in eukaryotes.

1. _____

2. _____

(2)

(b) Name the cell structure in a eukaryotic cell where aerobic respiration occurs.

_____

(1)

(c) Muscle cells and plant cells can respire anaerobically.

Compare the processes of anaerobic respiration in muscle and plant cells.

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(4)

(d) Anaerobic respiration in muscle cells creates an oxygen debt.

What does oxygen debt mean?

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(1)

(Total 8 marks)

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Q2.

In 2017, the city of Manchester began a 'City of Trees' project.

The project plans to plant 3 million trees over the next 25 years.

The trees will be used to:

- make existing woodlands larger
- link existing woodlands
- create new woodlands
- plant in parks, public gardens and along streets
- give to people to plant in private gardens.

(a) It was suggested that the council plant 3.6×10^5 trees in the first year.

The rest of the trees would be planted in equal numbers over the remaining years.

Calculate how many trees would need to be planted in each of the remaining years.

Give your answer in standard form.

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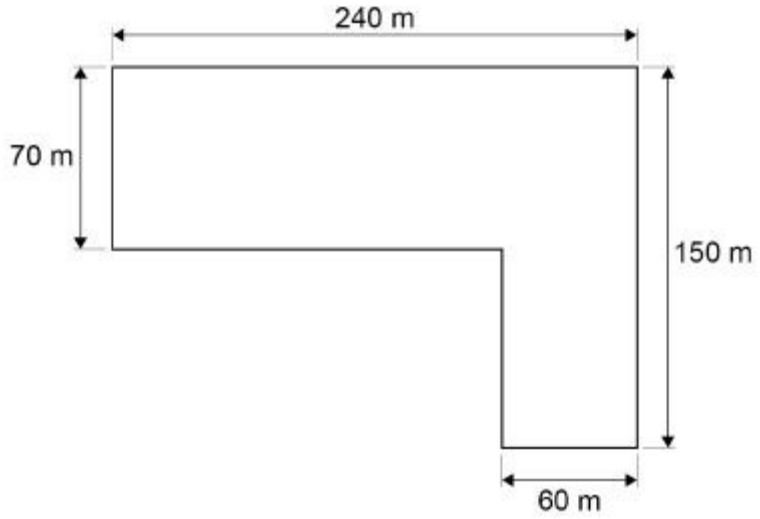
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Number of trees = _____ per year

(3)

(b) Students investigated the number of bluebells in one of the existing woodlands.

The diagram shows the dimensions of the woodland.



The students used a 0.25 m^2 quadrat to sample the bluebell population.

The mean number of bluebells per quadrat was 6

Estimate the population of bluebells in the woodland.

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Population = _____ bluebells

(2)

(c) A Manchester resident says that this project will 'fight pollution' and 'increase biodiversity' in their city.

Explain how the 'City of Trees' project will:

- reduce pollution
- increase biodiversity.

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(6)

(Total 11 marks)

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