Practice Question Set For GCSE
Subject : Biology
Paper-1 Topic: B2 Organisation

Merit Minds
www.merit-minds.com
Exam Preparation and Free Resources

Name of the Student:_____
Max. Marks : 24 Marks **Time : 24 Minutes**

Q1.

Enzymes are used in biological detergents.

(a) Name the type of enzyme that digests stains containing fats.

_____

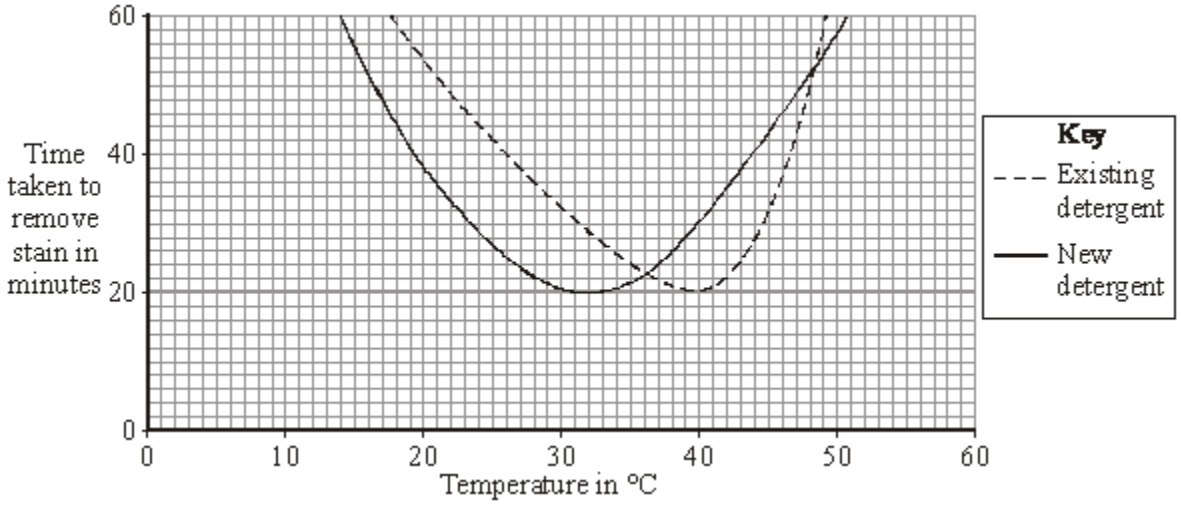
(1)

(b) A new detergent is marketed as being 'environmentally-friendly'.

Scientists compared the performance of this new detergent with an existing detergent.

They measured the time taken by the two detergents to remove a fat stain at different temperatures.

The graph shows their results.



(i) Describe the effect of increasing the temperature on the time taken by the existing detergent to remove the stain.

_____

_____

_____

_____

(2)

(ii) The new detergent works at a lower temperature than the existing one.

Downloaded from www.merit-minds.com

Is the new detergent likely to be more 'environmentally-friendly' than the existing detergent?

Draw a ring around your answer. **Yes / No**

Explain the reason for your answer.

_____

_____

_____

_____

(2)

(c) Neither detergent works well at 60 °C.

Explain why.

_____

_____

_____

_____

(2)

(Total 7 marks)

Downloaded from www.merit-minds.com

Q2.

A group of students looked at stomata on four different species of plants, **A, B, C** and **D**. They estimated the number of stomata per cm^2 on the upper and lower surfaces of the leaves of the four species.

Their results are shown in the table.

Plant species	**Estimated number of stomata per cm^2 of leaf surface**	
	Upper surface of leaf	**Lower surface of leaf**
A	4000	28 000
B	0	800
C	8500	15 000
D	8000	26 000

(a) Which plant species probably lives in a dry region? ☐

Explain the reason for your answer.

_____

_____

_____

_____

_____

_____

(3)

(b) All four species have more stomata on the lower surface of their leaves than on the upper surface.

Suggest how this could help the plants to survive better.

_____

_____

_____

_____

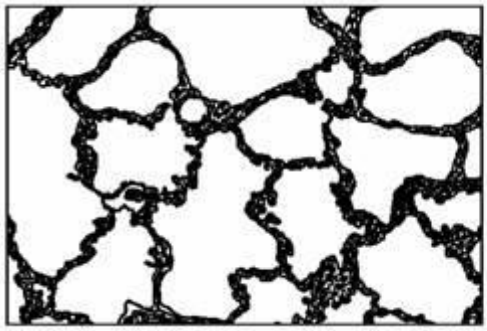
(2)

(Total 5 marks)

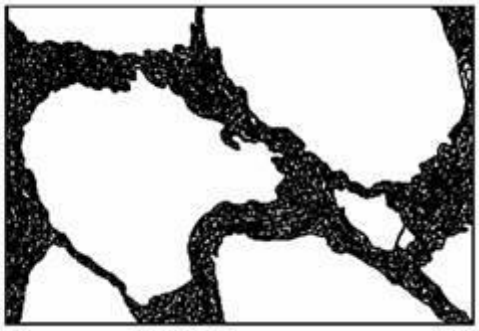
Downloaded from www.merit-minds.com

Q3.

Emphysema is a disease of the lungs. People who smoke cigarettes are more likely to suffer from emphysema. The diagrams show lung tissue from a healthy person and lung tissue from a person with emphysema. The diagrams are drawn to the same scale.



Lung tissue from a healthy person



Lung tissue from a person with emphysema

Explain how emphysema reduces the amount of oxygen which diffuses into the blood

_____

_____

_____

(Total 2 marks)

Downloaded from www.merit-minds.com

Q4.

(a) (i) What name is given to an enzyme which catalyses the breakdown of protein?

_____

(1)

(ii) What product is formed when protein is broken down by the enzyme?

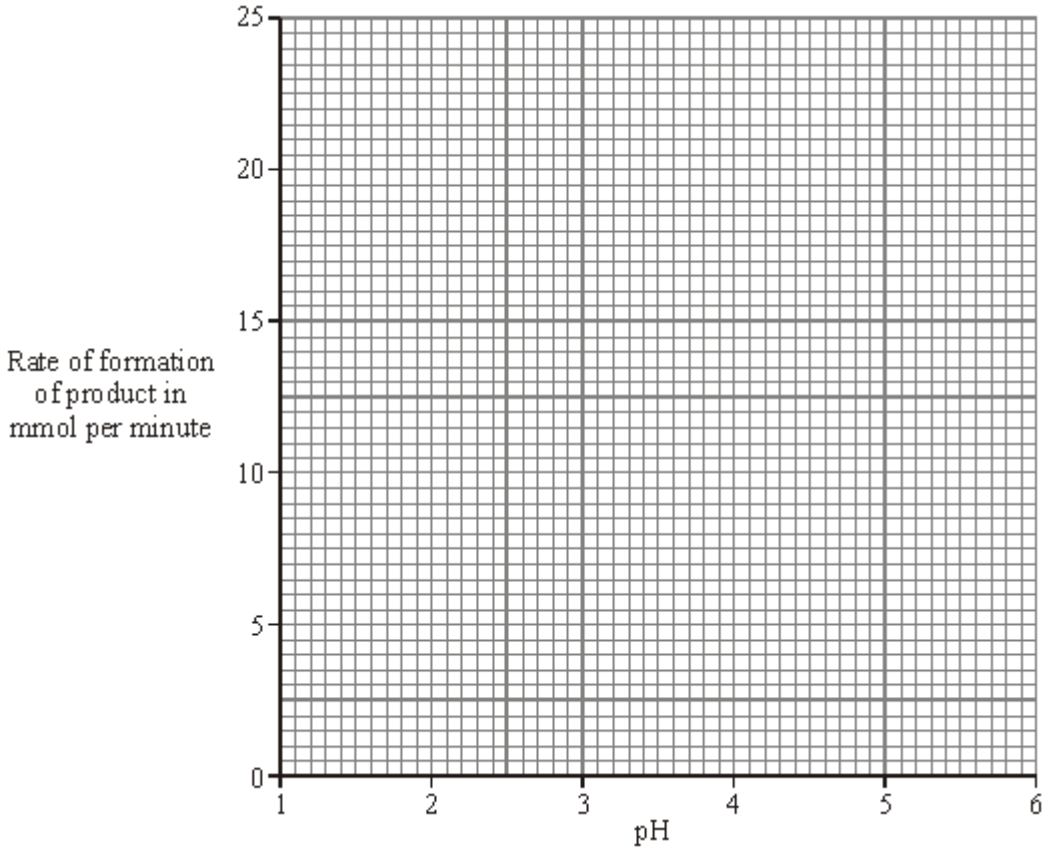
_____

(1)

The table shows the effect of pH on the activity of an enzyme which catalyses the breakdown of protein.

pH	1.0	2.0	3.0	4.0	5.0
Rate of formation of product in mmol per minute	10.5	23.0	10.5	2.5	0.0

(b) Draw a graph of the data in the table.



(3)

(c) The enzyme is produced by the human digestive system.

(i) At what pH does this enzyme work best? _____

(1)

(ii) Suggest which part of the digestive system produces this enzyme.

_____

(1)

Downloaded from www.merit-minds.com

(d) Why is it necessary to break down proteins in the digestive system?

_____

_____

_____

_____

_____

_____

(3)

(Total 10 marks)

Downloaded from www.merit-minds.com