

AQA, OCR, Edexcel

A Level

A Level Biology

Homeostasis Introduction
Questions

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Total Marks: /25

Homeostasis - Introduction

Homeostasis is the term for a number of internal processes that occur in body to keep the conditions of the body constant.

1. The role of homeostasis is to ensure that the conditions of the body stay within certain limits.

a) i) In terms of cellular chemical reactions why is it important to keep the internal body conditions constant? (2 marks)

ii) Why is it important that solute concentrations are maintained across the body? (2 marks)

iii) Explain why is it essential that internal body temperature and blood pH levels are kept within certain limits. (4 marks)

iv) Why is it important to keep blood glucose levels at an optimum amount? (3 marks)

2. Homeostasis occurs through a stimulus and response mechanism.

a) i) How is a response to a stimulus brought about in the body? (4 mark)

ii) Explain, how the mechanism of negative feedback is used to keep the internal body environment constant. (3 marks)

iii) The control of body temperature is advantageous, why? (2 marks)

b) Some changes in the bodies environment trigger a positive feedback loop to be stimulated.

i) How does positive feedback differ from negative feedback? (2 marks)

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- c) Oxytocin is a hormone released by women in labour which intensifies contraction. Its release is part of a positive feedback loop.
- i) Explain the positive feedback loop of oxytocin. (2 marks)

 - ii) Why is positive feedback not considered a homeostatic control mechanism? (1 mark)