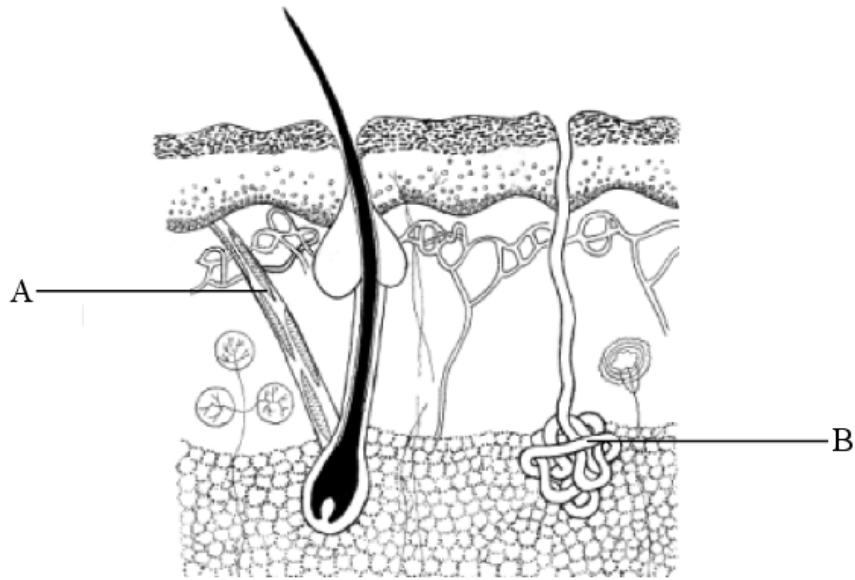


Question 1

6. The diagram shows a vertical section through human skin.



(a) Place an X on the adipose tissue.

(b) Name A and B.

A. _____ B. _____

(c) Define each of the following words **and** explain how each process keeps the human body warm.

(i) Piloerection. _____

(ii) Vasoconstriction. _____

Question 2

- (c)
 - (i) What is homeostasis? Note **one** reason why it is important in the human body.
 - (ii) Draw a diagram of a section through human skin to show **two** structures involved in temperature regulation. Label each of these structures.
 - (iii) For one of the structures that you have labelled in your diagram briefly describe its role in temperature regulation.
 - (iv) What is meant by an ectotherm?

Question 3

12. (a) What is homeostasis? State the role of the kidneys in homeostasis. (9)

- (c) Answer the following questions in relation to human body temperature.
- (i) What is the source of the heat that allows the body to maintain a constant internal temperature?
 - (ii) State **two** ways in which the body is insulated against loss of heat.
 - (iii) Describe the ways in which the body responds when its internal temperature rises above the normal level.
 - (iv) Describe briefly the hormonal and nervous responses that occur when internal body temperature drops. (24)