

**A Level Biology B**

**H422/01** Fundamentals of biology

**Question Set 9**

1. (a) Homeostatic mechanisms require hormones, such as thyroxine, to maintain a stable internal environment.

Iodine is required to produce thyroxine.

Explain why a deficiency in iodine could cause weight gain [1]

- (b) (i) The release of thyroxine is regulated by negative feedback and involves two other hormones, as shown in Fig. 32.

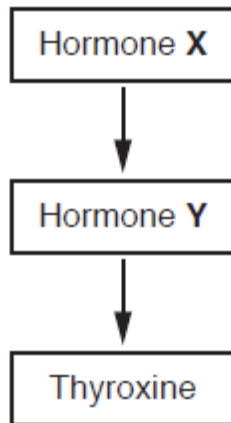


Fig. 32

Identify hormones X and Y. [2]

- (b) (ii) Describe the **general** features of a negative feedback mechanism.

- (c) Core body temperature is maintained between 36.5°C and 37.5°C. [3]

Describe **and** explain **two** physiological mechanisms that would be initiated following a decrease in core body temperature.

[2]

- (d) Doctors often take temperature measurements from the skin surface, inside the ear or inside the mouth.

Suggest why the ear provides a more accurate measurement of body temperature than the skin surface.

[2]

**Total Marks for Question Set 9: 10**

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