

Section II

35 marks

Attempt Questions 16–20

Allow about 50 minutes for this section

Answer the questions in the spaces provided. These spaces provide guidance for the expected length of response.

Question 16 (6 marks)

(a) Define the terms *anatomy* and *physiology*.

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Anatomy is the structure, location and function of the bodies features including organs, muscles and bones.
Physiology is the function and interaction of body organs and ~~systems~~ body systems.

(b) *Homeostasis* is a term that describes the state of physiological balance within the body.

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Provide an example of *homeostasis* and explain how it works.

An example of homeostasis is the bodies response to an increased external temperature. Receptor cells in the skin detect the change and send a nerve impulse to the hypothalamus of the brain. The hypothalamus then sends a nerve impulse to an effector organ or cell; in this case the sweat glands to start producing sweat and cool down the body. The ~~detector~~ detector cell sends positive feedback to the hypothalamus if more sweat is needed or negative feedback if sweat is no longer needed. ~~at~~