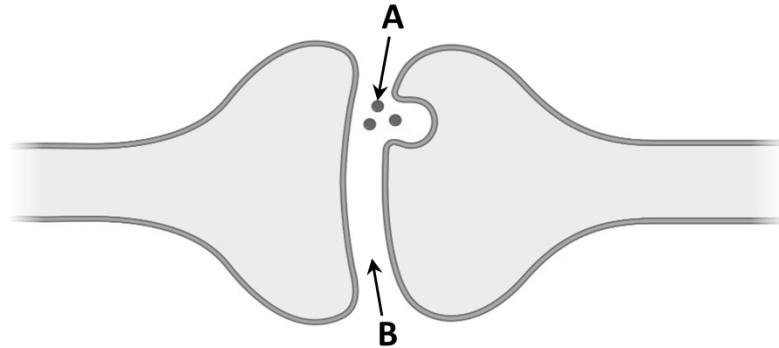


The Nervous System

Question 1

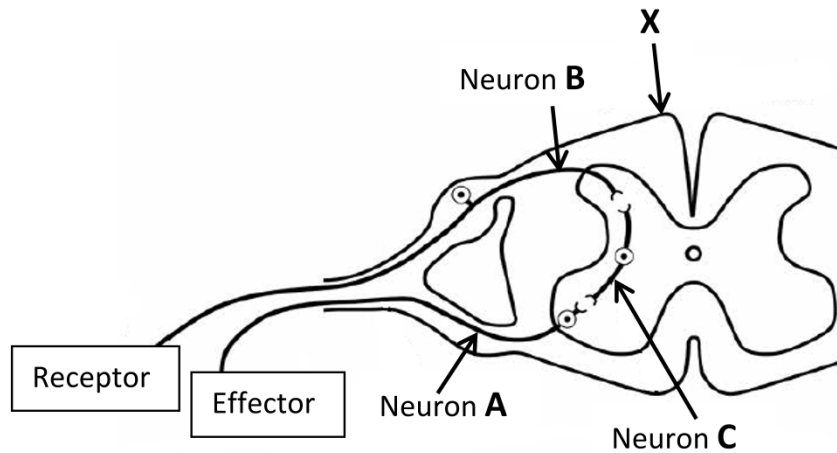
- (b) The diagram shows two separate neurons in close contact. Chemical **A** is produced by one of the neurons to allow the transfer of nerve impulses.



- (i) What term describes the region where two neurons come into close contact?
- (ii) What is the name given to the gap between two neurons, indicated by the letter **B** in the diagram?
- (iii) What is the general name given to the chemical **A** in the diagram?
- (iv) Where in a neuron is chemical **A** made?
- (v) Describe in detail how nerve impulses travel between two neurons in close contact.
- (vi) Interneurons are one type of neuron found within the central nervous system. Give the names of the other **two** types of neuron found in the human nervous system.
- (vii) Describe **one** possible treatment for **either** of the following nervous system disorders: paralysis **or** Parkinson's disease.

Question 2

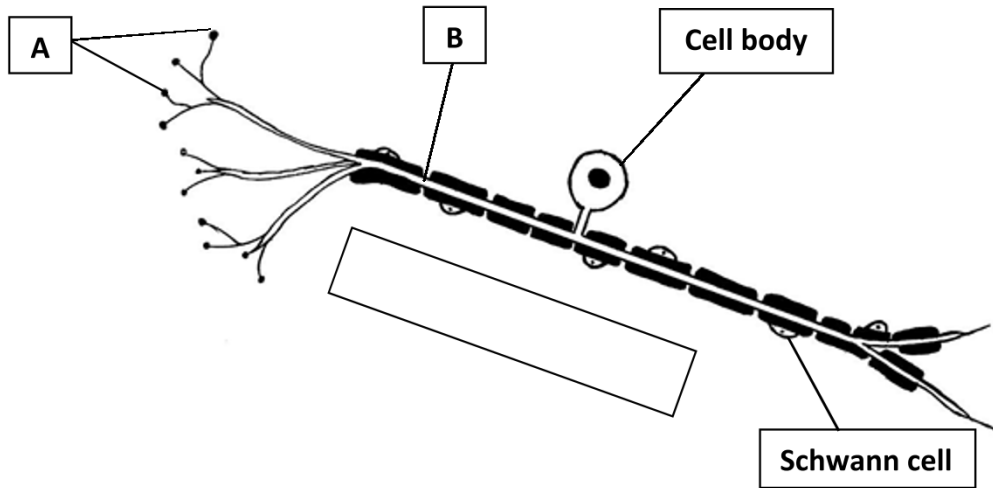
- (c) The diagram shows a cross section of the spinal cord along with some neurons from the peripheral nervous system.



- (i) Name the tissue labelled **X** which covers and protects the spinal cord.
- (ii) What is a reflex action?
- (iii) Give **one** example of a reflex action in the human body.
- (iv) Give **one** advantage of a reflex action.
- (v) Using the labels from the diagram, describe in detail how a reflex action works.
- (vi) Give **two** ways in which a nervous response differs from a hormonal response.

Question 3

6. The diagram shows the structure of a sensory neuron in the human body.



(a) Identify the part of the neuron labelled **B**.

(b) Name the substance (or group of substances) released by **A** during a nerve impulse.

(c) Name the substance produced by the Schwann cell.

(d) What is the function of this substance named at (c) during a nerve impulse?

(e) **Draw an arrow**, in the box provided near the diagram, to show the direction of the impulse.

(f) Parkinson's disease and paralysis are two disorders of the human nervous system. Choose either Parkinson's disease **or** paralysis and suggest how it may be caused and treated.

Disorder:
Cause:
Treatment: