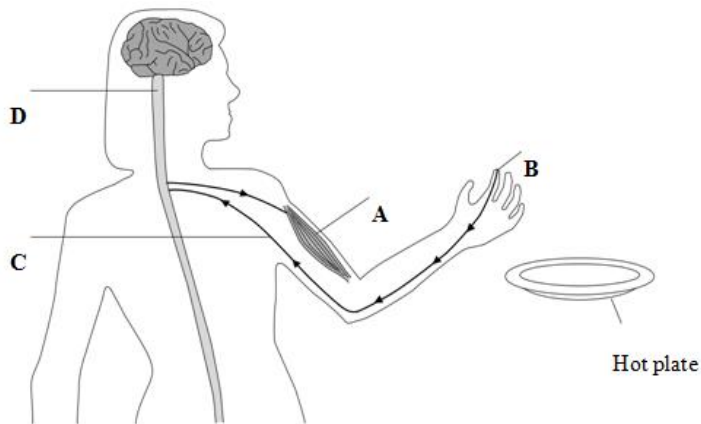


Nervous System

Q:1 A girl picks up a hot plate. A reflex action causes her to drop it.

The diagram shows some of the structures involved in this reflex action.



Use words from the box to name the structures labelled A, B, C and D.

brain gland muscle neurone receptor spinal cord

A _____

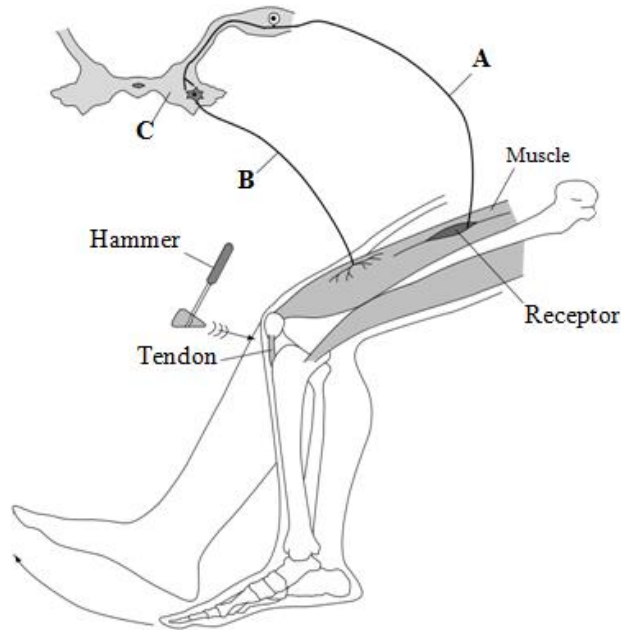
B _____

C _____

D _____

(4 marks)

Q:2 The diagram shows the structures involved in the knee-jerk reflex. When the tendon is struck with the hammer, the receptor is stimulated and the lower leg moves forward.



(a) Name the structures labelled A, B and C.

A _____

B _____

C _____

(3 marks)

(b) How is information passed from structure A to structure B?

(1 mark)

(c) What is the effector in this response?

(1 mark)

Q:3 The photograph shows a child waiting to cross a road.



(a) Name two different sense organs she would use to detect when it is safe to cross the road.

1. _____

2. _____

(2 marks)

(b) Which sense organ contains receptors that help the child to keep her balance?

(1 mark)

(c)(i) Complete the sentence.

A car driver automatically brakes if a child dashes out into the road.

This is called a _____ action.

(1 mark)

(c)(ii) Draw a ring around the correct answer to complete the sentence.

In the nervous system, information passes along cells called

effectors

neurones

synapses

(1 mark)

Q:4 Reflex actions are rapid and automatic.

(a) Name the following structures in a reflex action.

(a)(i) The structure that detects the stimulus.

(1 mark)

(a)(ii) The neurone that carries impulses to the central nervous system.

(1 mark)

(a)(iii) The neurone that carries impulses away from the central nervous system.

(1 mark)

(a)(iv) The structure that brings about the response.

(1 mark)

(b) Describe what happens at a synapse when an impulse arrives.

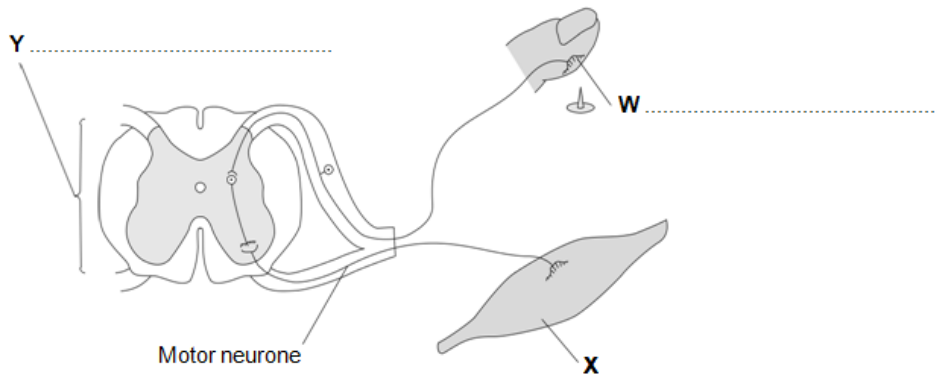
(2 marks)

(c) Some people have a condition in which information from the skin does not reach the brain.

Explain why this is dangerous for the person.

(2 marks)

Q:5 The diagram shows the structures involved in a reflex action.



(a) On the diagram, name the structures labelled W, X and Y.

(3 marks)

(b) The control of blood sugar level is an example of an action controlled by hormones.

Give two ways in which a reflex action is different from an action controlled by hormones.

1. _____

2. _____

(2 marks)

Q:6 The drawing shows a group of people in a café.



(a) Use words from the box to answer the questions.

brain eye nose skin tongue

Which organ contains receptors that allow a person to:

(a)(i) read the newspaper _____

(1 mark)

(a)(ii) smell the coffee _____

(1 mark)

(a)(iii) feel how hot the cup is _____

(1 mark)

(a)(iv) taste the coffee? _____

(1 mark)

(b) Smoking is banned in the café.

Name one disease that is caused by smoking tobacco.

(1 mark)

(c) A cigarette manufacturer increased the amount of nicotine in cigarettes by 11 % between 1997 and 2006. The manufacturer did not tell the public about this change.

(c)(i) Suggest one reason why the manufacturer increased the amount of nicotine in the cigarettes.

(1 mark)

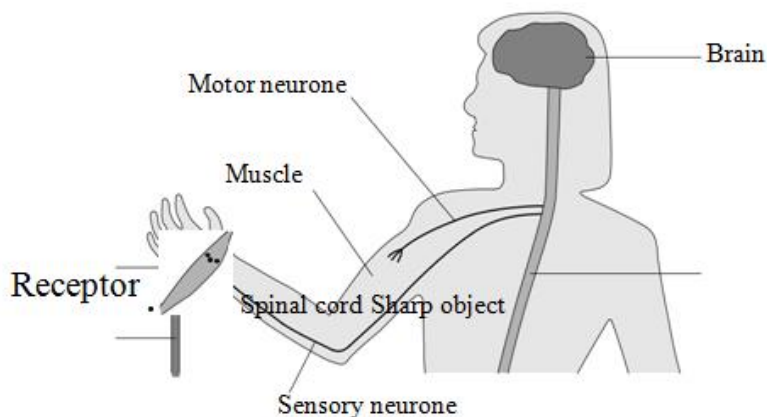
(c)(ii) Suggest one reason why the manufacturer did not tell the public about the change.

(1 mark)

Q:7 A student accidentally touches a sharp object.

Her hand is immediately pulled away from the object.

The diagram shows the structures involved in this response.



(a) Use the correct word or phrase from the diagram to complete each sentence.

(a)(i) The stimulus is detected by the _____

(1 mark)

(a)(ii) Impulses travel to the central nervous system along a
cell called a _____

(1 mark)

(a)(iii) Impulses travel from the central nervous system to the effector
along a cell called a _____

(1 mark)

(a)(iv) The hand is pulled away from the sharp object by the

(1 mark)

(b) Where in the body are there cells sensitive to:

(b)(i) light _____

(1 mark)

(b)(ii) sound _____

(1 mark)

(b)(iii) changes in position? _____

(1 mark)

TOTAL MARKS=