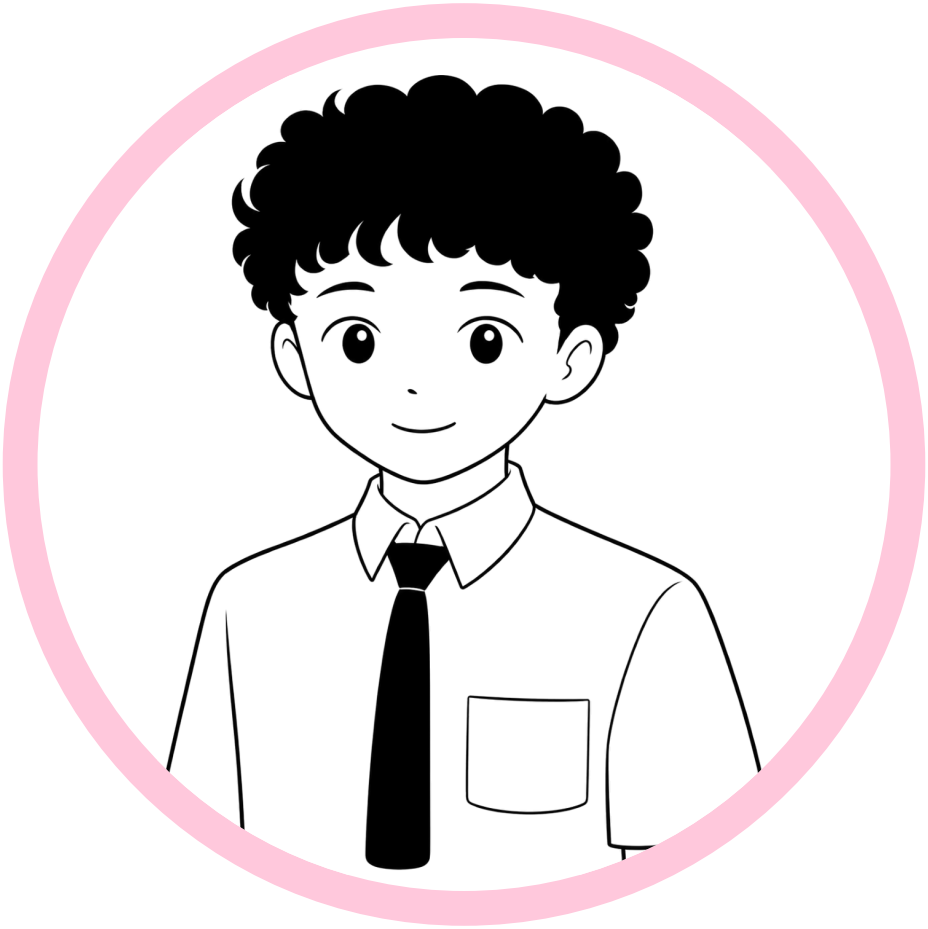
AQA A-LEVEL PSYCHOLOGY · 7182

PSYCHOLOGY



EXAM QUESTION PACK

3.2.2 THE NERVOUS SYSTEM AND NEURONS

SCORE	PERCENTAGE
/53	%

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Q1.

Give **one** difference between the autonomic nervous system and the somatic nervous system.

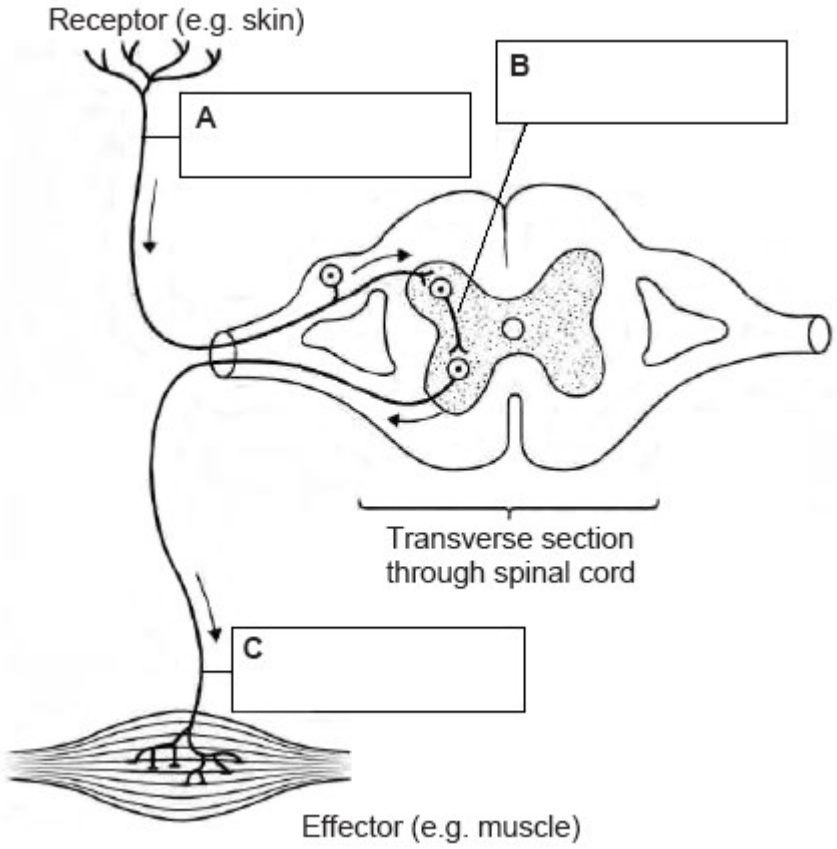
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(Total 1 mark)

Q2.

Name the types of neurons labelled **A, B** and **C** on the figure below. Write your answers in the boxes provided.



(Total 3 marks)

Q3.

Information can only travel in one direction at a synapse.

Explain why neurons can only transmit information in one direction at a synapse.

_____

_____

_____

_____

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_____

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(Total 3 marks)

Q4.

Explain the process of synaptic transmission.

(Total 4 marks)

Q5.

Which **two** of the following statements about the divisions of the nervous system are correct?

Shade **two** boxes only.

In the human nervous system…

A the fight or flight response occurs when the parasympathetic division controls functioning. ⬭

B the central nervous system consists of the brain and spinal cord. ⬭

C sensory, relay and motor neurons are all controlled by the somatic nervous system. ⬭

D sensory neurons carry messages from the central nervous system. ⬭

E the somatic nervous system controls voluntary movements. ⬭

(Total 2 marks)

Q6.

Briefly outline how excitation and inhibition are involved in synaptic transmission.

_____

_____

_____

_____

_____

_____

_____

_____

(Total 4 marks)

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Q7.

Complete the following sentence. Shade **one** box only.

Sensory neurons carry information

A away from the brain. ⬭

B both to and from the brain. ⬭

C towards the brain. ⬭

D within the brain. ⬭

(Total 1 mark)

Q8.

Complete the following sentence. Shade **one** box only.

The somatic nervous system

A comprises of two sub-systems. ⬭

B connects the central nervous system and the senses. ⬭

C consists of the brain and spinal cord. ⬭

D controls involuntary responses. ⬭

(Total 1 mark)

Q9.

Which **one** of the following responses results from the action of the sympathetic division of the autonomic nervous system? Shade **one** box only.

A Decreased pupil size ⬭

B Increased digestion ⬭

C Increased heart rate ⬭

D Increased salivation ⬭

(Total 1 mark)

Q10.

Label the **two** areas of the synapse in the diagram below by putting the appropriate letter in each box.

A Axon

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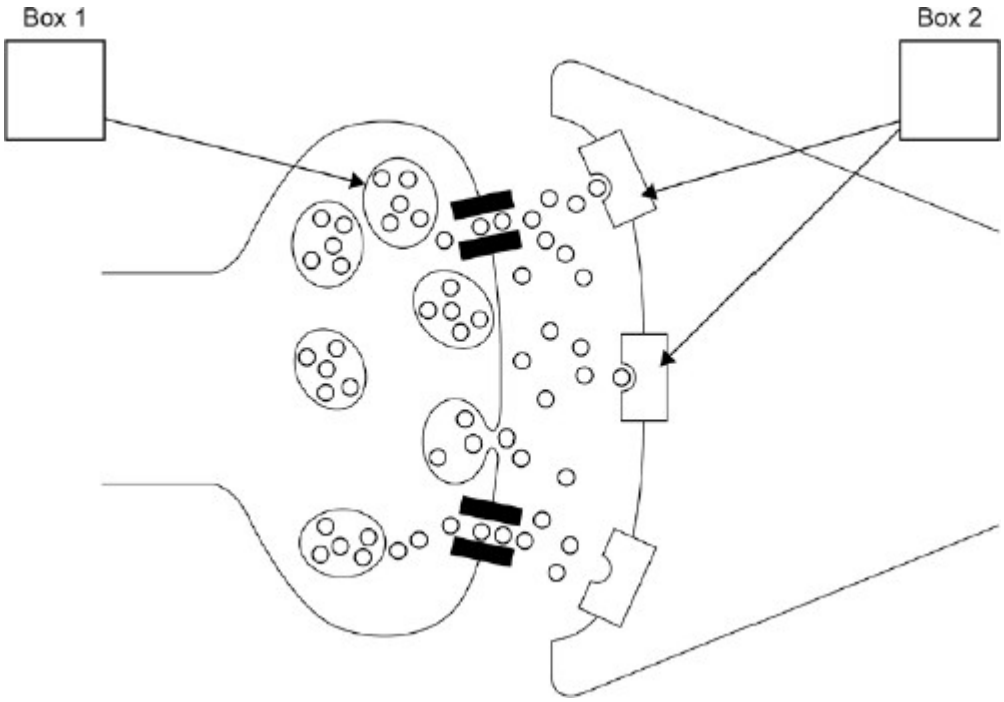
B Dendrites

C Neurotransmitters

D Receptor sites

E Vesicle

The synapse



(Total 2 marks)

Q11.

Jeremy is digging in the garden. He feels the spade hit a rock and stops digging immediately.

Explain how sensory, relay and motor neurons would function in this situation.

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(Total 6 marks)

Q12.

Outline the structures and processes involved in synaptic transmission.

(Total 6 marks)

Q13.

Identify the **two** components of the peripheral nervous system, and explain **two** differences in their organisation and/or functions.

(Total 4 marks)

Q14.

Raoul has recently been prescribed a drug for a mental illness. He looks on the internet to find out more about the drug but he does not understand the phrase ‘synaptic transmission’.

Write a brief explanation of synaptic transmission in the brain to help Raoul understand how his drug might work.

(Total 3 marks)

Q15.

Read the following statements and decide whether they are **TRUE** or **FALSE**.

(a) Motor (efferent) neurons carry messages to the central nervous system.
(Tick the correct box)

TRUE	FALSE

(1)

(b) The nucleus of a neuron is found outside the cell body (soma).
(Tick the correct box)

TRUE	FALSE

(1)
(Total 2 marks)

Q16.

Briefly outline the process of synaptic transmission.

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(Total 2 marks)

Q17.

You are walking home at night. It is dark and you hear someone running behind you. Your breathing quickens, your mouth dries and your heart pounds. Then you hear your friend call out, “Hey, wait for me! We can walk back together.” Your breathing slows down and after a couple of minutes you are walking home calmly with your friend.

Explain the actions of the autonomic nervous system. Refer to the description above in your answer.

Extra space

(Total 4 marks)

Q18.

Martha was telling her friend Sanya about her recent frightening experience.

’I was walking home by myself in the dark. Suddenly, I heard footsteps behind me and I realised that someone was getting closer to me. I saw a bus at the bus stop and decided to run. I don’t think I have ever moved with such speed. I leapt on the bus – shaking, sweating and my heart was beating so fast I nearly collapsed.’

Outline the role of the central nervous system **and** autonomic nervous system in behaviour. Refer to Martha’s frightening experience in your answer.

(Total 4 marks)