



QUESTION WORKBOOK

The nervous system: one wiring diagram, read from the top down

Nervous coordination, receptors, muscles and behaviour · Unit B14

AQA 3.6.1.3 (context) · OCR A 5.1.3, 5.1.5 · Edexcel A 7.9, 7.12, 8.1, 8.2, 8.7, 8.8
Edexcel B 4.4 iv, 9.4 i, 9.4 iii, 9.4 iv, 9.4 v, 9.5 iv, 9.8 i · CAIE 15.1 (context)

7 questions · 25 marks

PRINT EDITION

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SECTION A · Short, 1 to 2 marks

A1 NSO-Q7 State which parts of the body make up the central nervous system, and state what the somatic nervous system supplies. [2]

SECTION B · Standard, 3 to 5 marks

B1 NSO-Q1 A person treads on a sharp stone, pulls the foot away without thinking, and then notices that their heart is beating faster. Explain which divisions of the nervous system bring about each of these two responses, and explain why only the first of them could also have been performed on purpose. [5]

B2 NSO-Q2 Describe the effects of the sympathetic and the parasympathetic systems on the heart, the pupils, the gut and the bronchioles. [4]

B3 Compare skeletal muscle, involuntary muscle and cardiac muscle as tissues.

NSO-Q3

[4]

B4 After an injury to the brainstem a patient's heart rate and breathing become irregular, while their speech, memory and balance are unaffected. Suggest which region of the brain has been damaged, and suggest how the other regions can be ruled out.

NSO-Q4

[4]

B5 Name the region of the brain that sets heart rate and breathing rhythm, the region that coordinates balance and the timing of movement, and the region that monitors the water potential of the blood.

NSO-Q5

[3]

B6 Explain how a sensory neurone can be recognised in an unlabelled drawing, and explain why its long fibre is called a dendron rather than an axon.

NSO-Q6

[3]

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