



QUESTION WORKBOOK

Organisation of the nervous system

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)

15 questions · 50 marks

NAVY SCREEN EDITION

Every question in this book has a code beside its number.
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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]

A2

NSO-Q14

State what a nerve is, and state how it differs from a single neurone. [2]

A3

NSO-Q15

Name the term for a swelling containing the cell bodies of many neurones outside the central nervous system, and name the type of neurone whose cell body is found there. [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

NSO-Q3

Compare skeletal muscle, involuntary muscle and cardiac muscle as tissues. [4]

B4

NSO-Q4

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. [4]

B5

NSO-Q8

Compare the somatic nervous system with the autonomic nervous system, referring to what each supplies, whether its responses are voluntary, and an effector each system controls.

[4]

B6

NSO-Q9

Name the two lobes of the pituitary gland, and name what each one does with the hormones of the hypothalamus.

[4]

B7

NSO-Q10

A patient loses the ability to regulate body temperature and water balance after a head injury, but their movement, speech and heart rate are normal. Suggest which region of the brain has been damaged, and suggest how the other regions can be ruled out.

[4]

B8 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. [3]

NSO-Q5

B9 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. [3]

NSO-Q6

B10 Describe the structure of a relay neurone, and describe its position within a reflex arc. [3]

NSO-Q11

B11 Explain why both the sympathetic and parasympathetic systems are usually active in an organ at the same time, rather than only one being switched on. [3]

NSO-Q12

B12 Explain why damage to the medulla oblongata is more rapidly life-threatening
NSO-Q13 than similar damage to the cerebellum.

[3]

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