

[PHY2011 S1 2024](#) / Movement control - Cerebellum & Brainstem - extended questions 3

Started on	Sunday, 16 June 2024, 10:03 PM
State	Finished
Completed on	Sunday, 16 June 2024, 10:09 PM
Time taken	6 mins 15 secs
Marks	27.00/28.00
Grade	9.64 out of 10.00 (96.43%)

Question 1

Correct

Mark 5.00 out of 5.00

For each empty box select the correct answer from the drop-down list beside the box.

The balance control systems in the Brainstem are the ✓ and ✓ reticular nuclei.

They work antagonistically to modulate the ✓ reflexes of the ✓ muscles that allow us to ✓ .

Your answer is correct.

The correct answer is:

For each empty box select the correct answer from the drop-down list beside the box.

The balance control systems in the Brainstem are the [pontine] and [medullary] reticular nuclei.

They work antagonistically to modulate the [myotatic] reflexes of the [extensor] muscles that allow us to [maintain an upright posture].

Question 2

Correct

Mark 6.00 out of 6.00

For each empty box, select the correct option from the drop-down list beside the box.

The midbrain & brainstem ✓ lock in place the ✓ muscles of vertebral column & extensor muscles of the limbs & the trunk

If there is loss of higher brain control of these nuclei, there is an increase in ✓ & in the stretch reflexes of these muscles.

This is called ✓ and happens because Vestibulospinal & reticulospinal pathways are no longer ✓ by cerebral control and become tonically ✓ .

Your answer is correct.

The correct answer is:

For each empty box, select the correct option from the drop-down list beside the box.

The midbrain & brainstem [reticular nuclei] lock in place the [anti-gravity] muscles of vertebral column & extensor muscles of the limbs & the trunk

If there is loss of higher brain control of these nuclei, there is an increase in [muscle tone] & in the stretch reflexes of these muscles.

This is called [Decerebrate rigidity] and happens because Vestibulospinal & reticulospinal pathways are no longer [inhibited] by cerebral control and become tonically [active].

Question 3

Partially correct

Mark 5.00 out of 6.00

For each blank box, from the drop-down list select the correct answer.

Rhythmic movements of the limb purely through spinal cord control are possible because of groups of neurons known as ✓ .

These neurons cause rhythmic limb activation of ✓ of both limbs, but must do ✗ across the two limbs.

This means that as the flexors muscles at one are activated, at the other limb the ✓ muscles are activated.

At the same time, the ✓ muscles at the first limb must be inhibited, while the ✓ muscles at the other limb are inhibited.

Your answer is partially correct.

You have correctly selected 5.

The correct answer is:

For each blank box, from the drop-down list select the correct answer.

Rhythmic movements of the limb purely through spinal cord control are possible because of groups of neurons known as [Central Pattern Generators].

These neurons cause rhythmic limb activation of [Flexors & extensors] of both limbs, but must do [asynchronously] across the two limbs.

This means that as the flexors muscles at one are activated, at the other limb the [extensors] muscles are activated.

At the same time, the [extensors] muscles at the first limb must be inhibited, while the [flexors] muscles at the other limb are inhibited.

Question 4

Correct

Mark 6.00 out of
6.00**For each empty box select the correct answer from the drop-down list beside the box.**

Spinal reflexes to noxious stimuli (like stepping on a sharp object) consist of a ✓
component of the same leg and a ✓ component of the other leg.

For the ipsilateral (i.e., same leg) component to occur, the pain input has to be sent directly to ✓
the motor neurons to the ✓ muscles of the same leg.

For the contralateral (i.e., opposite leg) component to occur, the pain input has to be sent via
 ✓ the motor neurons to the ✓ muscles of the other leg.

Your answer is correct.

The correct answer is:

For each empty box select the correct answer from the drop-down list beside the box.

Spinal reflexes to noxious stimuli (like stepping on a sharp object) consist of a [flexor withdrawal] component of the same leg and a [crossed extensor] component of the other leg.

For the ipsilateral (i.e., same leg) component to occur, the pain input has to be sent directly to [excite] the motor neurons to the [flexor] muscles of the same leg.

For the contralateral (i.e., opposite leg) component to occur, the pain input has to be sent via [interneurons] the motor neurons to the [extensor] muscles of the other leg.

Question 5

Correct

Mark 5.00 out of 5.00

For each blank box, from the drop-down list select the correct answer.

Successful locomotion across a room requires us to do three things

(a) Move our limbs in a ✓ pattern(b) Maintain an ✓ posture by locking in place ✓ muscles of the vertebral column & extensor muscles of limbs(c) Make adjustments in response to ✓ inputs from the inner ear and ✓ inputs from neck & lower limbs

Your answer is correct.

The correct answer is:

For each blank box, from the drop-down list select the correct answer.

Successful locomotion across a room requires us to do three things

(a) Move our limbs in a [rhythmic] pattern

(b) Maintain an [upright] posture by locking in place [anti-gravity] muscles of the vertebral column & extensor muscles of limbs

(c) Make adjustments in response to [balance] inputs from the inner ear and [proprioceptive] inputs from neck & lower limbs