



[PHY2011 S1 2024](#) / Topic 5B Control of Movement by Cerebral Cortex (Do I understand the content? - Practice Quiz)

Started on Sunday, 16 June 2024, 10:10 PM

State Finished

Completed on Sunday, 16 June 2024, 10:13 PM

Time taken 2 mins 59 secs

Grade 10.00 out of 10.00 (100%)

Question 1

Correct

Mark 1.00 out of 1.00

Which of the following about the brain is CORRECT?

Select one:

- ☐ a. The left half of the brain controls the left half of the body
- ☒ b. Sensory and motor cortex lie adjacent to one another. ✓
- ☐ c. All areas of the body periphery are represented equally in the sensory and motor regions.
- ☐ d. The cerebral cortex is made up of a single layer of densely packed cells that generate our sensory awareness.
- ☐ e. The left half of the brain is completely independent of the right half so that one doesn't really know what the other is doing.

The correct answer is: Sensory and motor cortex lie adjacent to one another.

Question 2

Correct

Mark 1.00 out of 1.00

Which of the following is CORRECT?

Select one:

- ☐ a. The cerebral cortex has no influence in locomotion.
- ☐ b. The cerebral cortex has a random effect on locomotion.
- ☒ c. Decisions about changes in a person's posture require the participation of the cerebral cortex. ✓
However, many automatic responses can be coordinated at the levels of brainstem and spinal cord.
- ☐ d. When a person changes the direction of locomotion in order to avoid an obstacle, this can be done entirely by using spinal circuits.
- ☐ e. A cat in which the cerebral cortex has been completely destroyed cannot perform any kind of postural adjustment.

The correct answer is: Decisions about changes in a person's posture require the participation of the cerebral cortex. However, many automatic responses can be coordinated at the levels of brainstem and spinal cord.

Question 3

Correct

Mark 1.00 out of 1.00

The motor area of the cerebral cortex:

Select one:

- ☐ a. Lies at the opposite end of the brain from the sensory area.
- ☐ b. Has areas assigned to different body parts in direct proportion to their size.
- ☐ c. Is the one region of the cerebral cortex with only three identifiable layers.
- ☒ d. Has many neuronal connections with the adjacent sensory cortex. ✓
- ☐ e. Is the one place from which all neurones leave the brain.

The correct answer is: Has many neuronal connections with the adjacent sensory cortex.

Question 4

Correct

Mark 1.00 out of 1.00

The main function of the primary motor cortex is to

Select one:

- ☐ a. Plan and select movements
- ☐ b. Control posture in preparation for movements
- ☐ c. Execute a plan of movements formulated in the premotor cortex
- ☐ d. Specify movement of combinations of muscles but not individual muscles
- ☒ e. C and D above ✓

The correct answer is: C and D above

Question 5

Correct

Mark 1.00 out of 1.00

Imagining a sequence of movements would be associated with an increase in activity in

Select one:

- ☐ a. primary motor cortex
- ☐ b. premotor cortex
- ☒ c. supplementary motor area ✓
- ☐ d. association cortex
- ☐ e. A and C above

The correct answer is: supplementary motor area

Question 6

Correct

Mark 1.00 out of 1.00

The premotor cortex

Select one:

- ☐ a. Lacks a homunculus organization
- ☐ b. Receives its input from the primary motor cortex
- ☐ c. Can produce only simple coordinated movements
- ☐ d. Is located in the paracentral lobule
- ☒ e. Corresponds to Brodmann's area 6 ✓

The correct answer is: Corresponds to Brodmann's area 6

Question 7

Correct

Mark 1.00 out of 1.00

The medial group of descending motor tracts

Select one:

- ☐ a. directly connect the cortex to the spinal cord
- ☐ b. controls fine movements of the extremities
- ☐ c. is mostly concerned with postural control
- ☐ d. connects a number of brainstem nuclei with the spinal cord
- ☒ e. C and D above ✓

The correct answer is: C and D above

Question 8

Correct

Mark 1.00 out of 1.00

Control of anti-gravity muscles enabling a person to stand is a function of

Select one:

- ☒ a. medullary and pontine reticular area ✓
- ☐ b. substantia nigra
- ☐ c. trigeminal nucleus
- ☐ d. red nucleus
- ☐ e. A and D above

The correct answer is: medullary and pontine reticular area

Question 9

Correct

Mark 1.00 out of 1.00

To prepare and execute a specific motor action, information would flow from

Select one:

- ☐ a. supplementary motor area to primary motor area to premotor area
- ☒ b. supplementary motor area to premotor area to primary motor area ✓
- ☐ c. somatosensory association area to premotor area to primary motor area to supplementary motor area
- ☐ d. primary motor area to supplementary motor area to premotor area to somatosensory association area
- ☐ e. prefrontal cortex to somatosensory association areato primary motor area

The correct answer is: supplementary motor area to premotor area to primary motor area

Question 10

Correct

Mark 1.00 out of 1.00

The corticospinal tract

Select one:

- ☐ a. Partially decussates (crosses-over) in the medulla
- ☐ b. Primarily controls antigravity muscles
- ☐ c. Primarily controls the movements of the extremities
- ☒ d. A and C above ✓
- ☐ e. A and B above

The correct answer is: A and C above