

Sample test

Name _____

Date _____

IBB Hungary

Score _____

1. Choose the ONLY correct statement!

- A The corticospinal pathway is also called the pyramidal pathway because its axons pass through the pyramid of the medulla oblongata.
- B Axons of the corticospinal tract always form synapses with spinal cord motoneurons.
- C The axons of the corticospinal tract cross in the pons.
- D The supplementary motor cortex is located exclusively in the frontal lobe of the left hemisphere.

2. Choose the TWO correct statements!

- A The reticulospinal pathway starts from the medulla and pons.
- B The reticulospinal tract is involved in the initiation of movements.
- C The reticulospinal tract originates from the diencephalon.
- D The reticulospinal pathway runs in the dorsal funiculus of the spinal cord.

3. Choose the THREE correct statements!

- A A part of the proprioceptive reflex is a monosynaptic pathway between muscle-derived afferents and spinal cord motoneurons.
- B The afferent branch of the reflex starts from the muscle spindle receptors.
- C The proprioceptive reflex can be triggered by hitting the muscle tendon.
- D There are no inhibitory interneurons in the proprioceptive reflex.

4. Acetylcholine is only used as a neurotransmitter in the parasympathetic nervous system

- T True
- F False

5. Which of the following is not a region of the hippocampus?

- A Amygdala
- B CA1
- C CA3
- D Dentate gyrus
- E CA2

6. Dopaminergic neurons are mainly found in the

- A** substantia nigra and ventral tegmental area.
- B** prefrontal cortex.
- C** nucleus accumbens.
- D** striatum.
- E** hippocampus.

7. Which glial cell type is responsible for myelin sheath formation in the CNS?

- A** Satellite cell
- B** Ependymal cell
- C** Schwann cell
- D** Oligodendroglia
- E** Microglia

8. Which of the following statements is true for axonal transport?

- A** Retrograde axonal transport can be both fast and slow
- B** Axonal transport does not require ATP
- C** Axonal transport requires transport motor proteins
- D** Cytoskeletal elements are not transported along the axon
- E** Mitochondria are not transported along the axon

9. Select the single TRUE statement about glial cells!

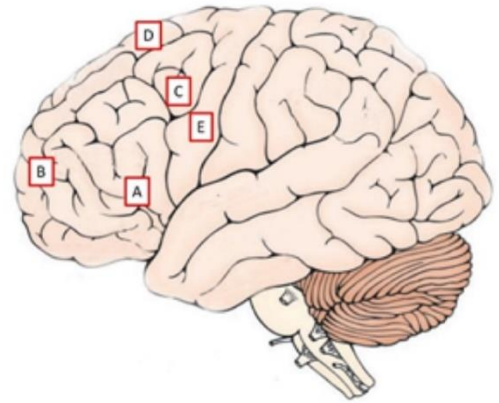
- A** Glial cells can generate action potentials
- B** Astrocytes are abundant in the peripheral nervous system
- C** Microglia form the myelin sheath around axons
- D** Astrocyte end feet form the glial limiting membrane along the pia mater
- E** Schwann cells can form the myelin sheath around more than one axon

10. Select the single TRUE statement about chemical synapses!

- A** The synaptic cleft of a chemical synapse is around 20 μm wide.
- B** Peptide neurotransmitters are usually synthesized in the axon terminal.
- C** Ca^{2+} influx is not needed for neurotransmitter release.
- D** Chemical synapses are slower than electrical ones.
- E** Neurotransmitters released into the synaptic cleft are never taken back into the presynaptic terminal.

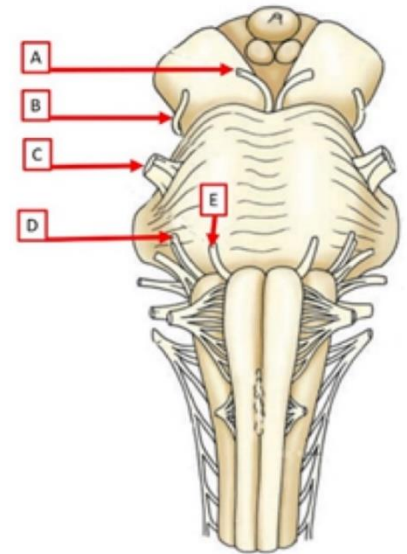
11. Match the statements with the corresponding letter!
Broca's speech centre:

- A A
- B B
- C C
- D D
- E E



12. Which letter is the trigeminal nerve marked by?

- A A
- B B
- C C
- D D
- E E



13. Lamina III and IV of the spinal cord are mediating pain, temperature and touch sensations.

- T True
- F False

14. The seen rash is painful and itchy. What is the most likely causative agent in this disease?

- A Clostridium tetani
- B Neisseria meningitidis
- C Rabies virus
- D Varicella zoster virus



15. Which neurons are affected in amyotrophic lateral sclerosis (ALS)?

- (A) lower motor neurons
- (B) upper motor neurons
- (C) both
- (D) neither

16. Fill the gaps with the appropriate answers below:

Inhibitors of the neurotransmitter _____ cause the pupil of the eye to _____.

- (A) acetylcholine; dilate
- (B) norepinephrine; constrict
- (C) acetylcholine; constrict
- (D) GABA; dilate