

Quiz on the Cerebral Cortex

1. Which of the following is NOT a functional area of the cerebral cortex?

- a) Motor areas
- b) Sensory areas
- c) Limbic areas
- d) Endocrine areas

Answer: d) Endocrine areas

2. What is the primary function of cortical association areas?

- a) Motor control
- b) Sensory reception
- c) Analyzing and integrating signals from various regions
- d) Controlling reflex actions

Answer: c) Analyzing and integrating signals from various regions

3. Where is the parieto-occipito-temporal association area located?

- a) Frontal lobe
- b) Between sensory areas of the parietal, occipital, and temporal lobes
- c) In the limbic system
- d) Near the cerebellum

Answer: b) Between sensory areas of the parietal, occipital, and temporal lobes

4. Which function is associated with the area for analysis of body position?

- a) Recognizing written words
- b) Interpreting body position using visual and proprioceptive input
- c) Coordinating limb movement
- d) Controlling facial expressions

Answer: b) Interpreting body position using visual and proprioceptive input

5. Damage to the reading area (angular gyrus) results in which condition?

- a) Dyslexia (word blindness)
- b) Prosopagnosia
- c) Agraphia
- d) Auditory agnosia

Answer: a) Dyslexia (word blindness)

6. What is the function of the area for naming objects?

- a) Interpreting speech patterns
- b) Associating auditory input with physical objects
- c) Controlling hand movements
- d) Understanding body positioning

Answer: b) Associating auditory input with physical objects

7. The area responsible for facial recognition is located in which brain regions?

- a) Medioventral surfaces of the occipital and temporal lobes
- b) Frontal lobe
- c) Angular gyrus
- d) Corpus callosum

Answer: a) Medioventral surfaces of the occipital and temporal lobes

8. What condition results from a lesion in the facial recognition area?

- a) Dyslexia
- b) Prosopagnosia
- c) Global aphasia
- d) Hemianopia

Answer: b) Prosopagnosia

9. Wernicke's area is responsible for which of the following?

- a) Facial recognition
- b) Motor coordination of speech
- c) Higher-level language comprehension
- d) Visual perception

Answer: c) Higher-level language comprehension

10. Which of the following is NOT a function of Wernicke's area?

- a) Understanding spoken and written words
- b) Recognizing objects
- c) Formulating thoughts for meaningful speech
- d) Processing and recalling stored information

Answer: b) Recognizing objects

11. Where is the prefrontal association area located?

- a) Occipital cortex
- b) Anterior portion of the frontal cortex
- c) Temporal lobe
- d) Brainstem

Answer: b) Anterior portion of the frontal cortex

12. What is a key function of the prefrontal association area?

- a) Visual processing
- b) Planning complex voluntary movements
- c) Controlling vital reflexes
- d) Detecting body position

Answer: b) Planning complex voluntary movements

13. Which of the following is NOT a function of the prefrontal cortex?

- a) Adjusting personal behavior
- b) Elaborating thoughts
- c) Detecting pain stimuli
- d) Sustaining mental concentration

Answer: c) Detecting pain stimuli

14. What role does the prefrontal cortex play in memory?

- a) It is responsible for long-term memory storage
- b) It collects, stores, and recalls temporary information
- c) It transmits memory signals to the spinal cord
- d) It processes visual memories only

Answer: b) It collects, stores, and recalls temporary information

15. What is language?

- a) A simple neural reflex
- b) The highest mental function enabling communication
- c) A function controlled only by the cerebellum
- d) A motor activity regulated by the brainstem

Answer: b) The highest mental function enabling communication

16. What is the primary site for motor aspects of speech production?

- a) Wernicke's area
- b) Broca's area
- c) Angular gyrus
- d) Exner's area

Answer: b) Broca's area

17. What happens if Broca's area is damaged?

- a) Loss of facial recognition
- b) Inability to understand speech
- c) Failure to articulate speech (expressive aphasia)
- d) Loss of muscle coordination

Answer: c) Failure to articulate speech (expressive aphasia)

18. Exner's area is primarily involved in which function?

- a) Understanding speech
- b) Coordinating hand movements for writing
- c) Controlling facial expressions
- d) Regulating emotional responses

Answer: b) Coordinating hand movements for writing

19. What is the primary cause of aphasia?

- a) Neurotransmitter imbalance
- b) Stroke affecting cerebral blood vessels
- c) Viral infections
- d) Degeneration of the spinal cord

Answer: b) Stroke affecting cerebral blood vessels

20. Global aphasia affects which aspects of language?

- a) Only spoken language
- b) Only written language
- c) Both comprehension and expression of language
- d) Motor functions of the hands

Answer: c) Both comprehension and expression of language