

Nervous System Quiz

1. The term *central nervous system* refers to the:

- A) autonomic and peripheral nervous systems
- B) brain, spinal cord, and cranial nerves
- C) brain and cranial nerves
- D) spinal cord and spinal nerves
- E) brain and spinal cord

2. The peripheral nervous system consists of:

- A) spinal nerves only
- B) the brain only
- C) cranial nerves only
- D) the brain and spinal cord
- E) the spinal and cranial nerves

3. Which of these cells are not a type of neuroglia found in the CNS:

- A) astrocytes
- B) microglia
- C) Schwann cells
- D) ependymal cells
- E) oligodendrocytes

4. The Schwann cells form a myelin sheath around the:

- A) dendrites
- B) cell body
- C) nucleus
- D) axon
- E) nodes of Ranvier

5. The neuron processes that normally receives incoming stimuli are called:

- A) axons
- B) dendrites
- C) neurolemmas
- D) Schwann cells
- E) satellite cells

6. Collections of nerve cell bodies inside the PNS are called:

- A) ganglia
- B) tracts
- C) nerves
- D) nuclei
- E) tracts or ganglia

7. Which of the following best describes the waxy-appearing material called *myelin*:

- A) an outer membrane on a neuroglial cell
- B) a lipid-protein (lipoprotein) cell membrane on the outside of axons
- C) a mass of white lipid material that surrounds the cell body of a neuron
- D) a mass of white lipid material that insulates the axon of a neuron
- E) a mass of white lipid material that surrounds the dendrites of a neuron

8. A neuron with a cell body located in the CNS whose primary function is connecting other neurons is called a(n):

- A) efferent neuron
- B) afferent neuron
- C) interneuron
- D) glial cell
- E) satellite cell

9. White matter refers to myelinated fibers in the:

- A) CNS
- B) PNS
- C) ANS
- D) SNS
- E) both ANS and SNS

10. Impulse conduction is fastest in neurons that are:

- A) myelinated
- B) unmyelinated
- C) sensory
- D) motor
- E) cerebral

11. An action potential:

- A) is essential for nerve impulse propagation
- B) involves the influx of negative ions to depolarize the membrane
- C) involves the outflux of negative ions to depolarize the membrane
- D) involves the outflux of positive ions to depolarize the membrane
- E) is initiated by potassium ion movements

12. Immediately after an action potential is propagated, which one of the following ions rapidly diffuses out of the cell into the tissue fluid:

- A) sodium
- B) chloride
- C) calcium
- D) potassium
- E) magnesium

13. The ability to respond to a stimulus is termed:

- A) polarized
- B) irritability
- C) depolarized
- D) conductivity
- E) all-or-none response

14. Which one of the following is the correct sequence of events that follows a threshold potential:

1. the membrane becomes depolarized
2. sodium channels open and sodium ions diffuse inward
3. the membrane becomes repolarized
4. potassium channels open and potassium ions diffuse outward while sodium is actively transported out of the cell

- A) 3,2,4,1
- B) 2,1,4,3
- C) 2,1,3,4
- D) 1,2,4,3
- E) 4,1,3,2

15. Which one of the following describes saltatory conduction:

- A) occurs only if the myelin sheath is continuous
- B) occurs only if the nodes of Ranvier are lacking
- C) occurs only in the absence of axon hillocks
- D) is faster than conduction on an unmyelinated fiber
- E) is slower than conduction on an unmyelinated fiber

16. The substance that is released at axonal endings to propagate a nervous impulse is called:

- A) an ion
- B) nerve glue
- C) a neurotransmitter
- D) the sodium-potassium pump
- E) an action potential

17. Which of the following is the correct sequence in a typical reflex arc:

- A) effector, afferent neuron, integration centre, efferent neuron, receptor
- B) receptor, afferent neuron, integration centre, efferent neuron, effector
- C) effector, efferent neuron, integration centre, afferent neuron, receptor
- D) receptor, efferent neuron, integration centre, afferent neuron, effector
- E) receptor, afferent neuron, efferent neuron, integration centre, effector

18. The elevated ridges of tissue on the surface of the cerebral hemispheres are known as _____ while the shallow grooves are termed _____.

- A) sulci; gyri
- B) gyri; sulci
- C) ganglia; gyri
- D) tracts; ganglia
- E) receptors; effectors

19. The olfactory area is found within the:

- A) occipital lobe
- B) temporal lobe
- C) frontal lobe
- D) parietal lobe
- E) pyramidal tract

20. Sally has a brain injury; she knows what she wants to say but can't vocalize the words. The part of her brain that deals with the ability to speak is the:

- A) longitudinal fissure
- B) gyrus
- C) central sulcus
- D) Broca's area
- E) primary motor control

21. The midbrain, pons and medulla oblongata are housed in the:

- A) diencephalon
- B) hypothalamus
- C) brain stem
- D) pineal gland
- E) cerebellum

22. Lobe that contains the primary motor area that enables voluntary control of skeletal muscle movements:

- A) parietal lobe
- B) temporal lobe
- C) occipital lobe
- D) frontal lobe
- E) diencephalon

23. Afferent nerves are called _____, and motor nerves are called _____.

- A) motor nerves; sensory nerves
- B) peripheral nerves; cranial nerves
- C) mixed nerves; motor nerves
- D) sensory nerves; efferent nerves
- E) cranial nerves; peripheral nerves

24. The area of the brain stem that plays a role in consciousness and the awake/sleep cycle is the:

- A) thalamus
- B) reticular activating system (RAS)
- C) pineal gland
- D) limbic system
- E) cerebellum

25. Control of temperature, endocrine activity, metabolism, and thirst are functions associated with the:

- A) medulla oblongata
- B) cerebellum
- C) hypothalamus
- D) thalamus
- E) cerebrum

26. The vital centers for the control of visceral activities such as heart rate, breathing, blood pressure, swallowing, and vomiting are located in the:

- A) pons
- B) medulla oblongata
- C) midbrain
- D) cerebrum
- E) hypothalamus

27. Loss of muscle coordination results from damage to the:

- A) cerebrum
- B) hypothalamus
- C) cerebellum
- D) thalamus
- E) midbrain

28. Which of the following is a traumatic brain injury:

- A) cerebrovascular accident (CVA)
- B) Alzheimer's disease
- C) aphasia
- D) cerebral edema
- E) Parkinson's disease

29. Which one of the following is the correct sequence of nerves that exit the spinal cord, going from superior to inferior:

- A) thoracic spinal nerves, cervical spinal nerves, lumbar spinal nerves, sacral spinal nerves
- B) cervical spinal nerves, lumbar spinal nerves, thoracic spinal nerves, sacral spinal nerves
- C) thoracic spinal nerves, cervical spinal nerves, sacral spinal nerves, lumbar spinal nerves
- D) cervical spinal nerves, thoracic spinal nerves, sacral spinal nerves, lumbar spinal nerves
- E) cervical spinal nerves, thoracic spinal nerves, lumbar spinal nerves, sacral spinal nerves

30. The nerve that contains sensory fibers that are involved in hearing is:

- A) cranial nerve II
- B) cranial nerve III
- C) cranial nerve V
- D) cranial nerve VIII
- E) cranial nerve IX

31. Preparing the body for “fight-or-flight” response during threatening situations is the role of the:

- A) sympathetic nervous system
- B) cerebrum
- C) parasympathetic nervous system
- D) somatic nervous system
- E) afferent nervous system

Solutions

1. E
2. E
3. C
4. D
5. B
6. A
7. D
8. C
9. A
10. A
11. A
12. D
13. B
14. B
15. D
16. C
17. B
18. B
19. B
20. D
21. C
22. D
23. D
24. C
25. C
26. B
27. C
28. D
29. E
30. D
31. A