Chapter 14
Peripheral Nervous System

Multiple Choice

1. All of the following cranial nerves have a functional classification of motor except:
   A. oculomotor.
   B. trochlear.
   C. vestibulocochlear.
   D. accessory.

2. The nerve commonly called the *vagus nerve* is the:
   A. ninth cranial.
   B. tenth cranial.
   C. eleventh cranial.
   D. twelfth cranial.

3. Which of the following cranial nerves is responsible for movements of the tongue?
   A. olfactory
   B. trigeminal
   C. trochlear
   D. hypoglossal

4. All of the following cranial nerves are involved in proprioception except:
   A. vagus.
   B. hypoglossal.
   C. accessory.
   D. abducens.

5. The cervical plexus:
   A. is found deep in the neck.
   B. is formed by the ventral rami of the first four cervical nerves and part of C5.
   C. includes the phrenic nerve.
   D. all of the above.

6. Which plexus contains nerves that innervate the lower part of the shoulder and all of the arm?
   A. brachial
   B. cervical
   C. lumbar
   D. sacral

7. The sensory cranial nerves include only the:
   A. optic, vestibulocochlear, and vagus.
   B. olfactory, optic, and facial.
C. olfactory, optic, and vestibulocochlear.
D. optic, facial, and vestibulocochlear.

8. The cranial nerve that arises from both the brain and spinal cord is the:
A. abducens.
B. accessory.
C. glossopharyngeal.
D. vagus.

9. Nerve impulses over the ______ nerve cause increased peristalsis and decreased heart rate.
A. olfactory
B. trigeminal
C. vagus
D. hypoglossal

10. The spinal nerves are connected to the spinal cord and consist of:
A. 12 pairs.
B. 21 pairs.
C. 31 pairs.
D. 41 pairs.

11. Which of the following is true about spinal nerves? They are:
A. only sensory fibers.
B. only motor fibers.
C. completely autonomic fibers.
D. motor and sensory fibers.

12. A mixed nerve is one that:
A. goes to both the skin surface and to the viscera.
B. has its pathway mixed with other nerves.
C. carries both sensory and motor fibers.
D. carries large and small motor fibers.

13. Damage to the ______ nerve could make the diaphragm unable to function.
A. phrenic
B. axillary
C. radial
D. medial cutaneous

14. The phrenic nerve is found in the:
A. cervical plexus.
B. brachial plexus.
C. lumbar plexus.
D. sacral plexus.
15. Somatic reflexes consist of:
A. contractions of smooth muscle.
B. contractions of cardiac muscle.
C. glandular contractions.
D. contractions of skeletal muscles.

16. Which of the following is not true of the knee jerk reflex? It:
A. is a flexor reflex.
B. is an ipsilateral reflex.
C. is a spinal cord reflex.
D. does not have to involve the brain.

17. Normal infants will show the Babinski reflex up to the age of:
A. 1.5 years.
B. 2 years.
C. 2.5 years.
D. 3 years.

18. Which generalization concerning the autonomic nervous system is not true?
A. All of its axons are afferent fibers.
B. It operates without conscious control.
C. It regulates visceral activities.
D. All of its neurons are motor.

19. Which of the following would not be an effector of the autonomic nervous system?
A. skeletal muscles
B. blood vessels
C. sweat glands
D. the iris of the eye

20. The autonomic nervous system functions chiefly in the:
A. coordination of muscular activity.
B. innervation of smooth muscle in the viscera.
C. reception of sensory impulses.
D. arousal of alerting mechanism.

21. Which of the following is not an example of sympathetic stimulation?
A. constriction of the bronchioles
B. decreased secretion of the pancreas
C. constriction of the urinary sphincters
D. dilation of skeletal muscle blood vessels
22. All of the following are examples of parasympathetic stimulation except:
A. contraction of the urinary bladder.
B. relaxation of the sphincters of the digestive tract.
C. increased salivation.
D. increased heart rate.

23. “Fight-or-flight” physiological changes include all of the following except:
A. increased conversion of glycogen into glucose.
B. constriction of respiratory airways.
C. increased sweating.
D. dilation of blood vessels in skeletal muscles.

24. A child was frightened by a large dog. The pupils of the child’s eyes became dilated, and the heart and respiratory rates increased. These symptoms were due to:
A. stimulation of the parasympathetic nervous system.
B. stimulation of the sympathetic nervous system.
C. stimulation of both the parasympathetic and the sympathetic nervous systems.
D. none of the above would account for the symptoms.

25. Which of the following might occur from the stimulation of parasympathetic fibers?
A. goose pimples
B. dilation of blood vessels to skeletal muscles
C. increased blood sugar
D. increased peristalsis in the digestive tract

26. Parasympathetic stimulation has no effect on any of the following areas except:
A. sweat glands.
B. skin blood vessels.
C. liver.
D. urinary bladder.

27. All of the following are examples of sympathetic stimulation except:
A. decreased secretion in the pancreas.
B. constriction of the urinary sphincters.
C. constriction of the bronchioles.
D. dilation of skeletal muscle blood vessels.

28. All of the following are examples of parasympathetic stimulation except:
A. contraction of the urinary bladder.
B. relaxation of the sphincters of the digestive tract.
C. increased secretion of saliva.
D. increased rate and strength of contraction of cardiac muscle.

29. Which of the following statements is not true?
A. The parasympathetic division is the dominant controller of most autonomic effectors most of the time.
B. Under quiet, nonstressful conditions, more impulses reach autonomic effectors by cholinergic parasympathetic fibers than by adrenergic sympathetic fibers.
C. The major function of the parasympathetic division is to serve as an “emergency” system.
D. Parasympathetic stimulation causes an increase in the secretion of pancreatic juice and insulin.

30. Which of the following is a correct statement?
A. There are 7 cervical nerve pairs.
B. There are 11 thoracic nerve pairs.
C. There are 5 lumbar nerve pairs.
D. All of the above are correct statements.

31. The lumbar plexus gives rise to the:
A. median nerve.
B. phrenic nerve.
C. femoral nerve.
D. none of the above.

32. The peripheral nervous system includes:
A. only spinal nerves.
B. only spinal nerves and their branches.
C. only cranial nerves, spinal nerves, and their branches.
D. cranial nerves, the spinal cord, spinal nerves, and their branches.

33. The peripheral nervous system includes:
A. autonomic nerves.
B. sensory nerves.
C. somatic nerves.
D. all of the above.

34. Which part of the vertebral column has one more pair of nerves coming from it than it has vertebra?
A. cervical
B. thoracic
C. lumbar
D. B and C

35. Which is not true of the ventral nerve root?
A. It is also called the anterior root.
B. It contains the spinal ganglion.
C. It includes motor neurons.
D. All of the above are true.
36. Which is not true of the dorsal nerve root?
A. It is also called the posterior root.
B. It includes the spinal ganglion.
C. It includes sensory fibers.
D. All of the above are true.

37. Which region of the spinal cord does not contribute nerves to a plexus?
A. cervical
B. thoracic
C. lumbar
D. all of the above regions contribute to a plexus

38. Which of the following is not associated with the oculomotor nerve?
A. movement of external eye muscles
B. closing and opening of the eye (blink reflex)
C. movement of intrinsic eye muscles
D. proprioception of eye muscles

39. Which of the following cranial nerves does not have the function of eye movement?
A. oculomotor nerve
B. trochlear nerve
C. trigeminal nerve
D. abducens nerve

True/False

40. Each optic nerve contains fibers from both retinas.

41. Conduction by the sixth cranial nerve results in sensations of hearing.

42. The vagus nerve contains both sensory and motor fibers.

43. Injury to the sixth cranial nerve causes the eye to turn in because of paralysis of the abducting muscle of the eye.

44. There are 31 pairs of spinal nerves, all of which consist of both motor and sensory fibers.

45. A herpes zoster (shingles) outbreak usually affects more than one dermatome pattern on the skin.

46. Each spinal nerve attaches to the spinal cord by means of two short roots, a ventral root and a dorsal root.
47. The phrenic nerve is contained in the brachial plexus.

48. Any disease or injury that damages the spinal cord between the third and fifth cervical segments also paralyzes the phrenic nerve and, therefore, the diaphragm.

49. A dermatome is the skin surface area supplied by a single spinal nerve.

50. Approximately 3% of the population will suffer from shingles at some time in their lives.

51. Somatic reflexes are contractions of smooth muscles.

52. At all stages of development, a positive Babinski reflex always means destruction of pyramidal tract fibers.

53. Visceral effectors are innervated by sympathetic fibers.