

***Gray's Anatomy for Students 4th edition Drake Test
Bank***

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Drake: Gray's Anatomy for Students, 3rd Edition

Chapter 02: Back

Test Bank

TRUE/FALSE

1. The nervous system is composed of brain, spinal cord, and peripheral nerves.

ANS: T

DIF: memorization

TOP: Body Systems

CHAP: Back

2. Bones of the appendicular skeleton form the brain case and vertebral column.

ANS: F

DIF: synthesis

TOP: Divisions of Skeleton

CHAP: Back

3. The upper extremities and the lower extremities are subdivisions of the axial skeleton.

ANS: F

DIF: synthesis

TOP: Divisions of Skeleton

CHAP: Back

4. The five sacral vertebrae remain separate until about 40 years of age; at that point they fuse to form one wedge-shaped bone.

ANS: F

DIF: memorization

TOP: Vertebral Column

CHAP: Back

5. Palpable bony landmarks are bones that can be touched and identified through the skin.

ANS: T

DIF: memorization

TOP: Palpable Bone Landmarks

CHAP: Back

6. Normal curvature of the spine is convex through the thoracic region and concave through the cervical and lumbar regions.

ANS: T

DIF: memorization

TOP: Mechanisms of Disease

CHAP: Back

7. The dens is found on the first cervical vertebra or atlas.

ANS: F

DIF: memorization

TOP: Vertebral Column

CHAP: Back

8. The dens is found on the second cervical vertebra, or axis.

ANS: T

DIF: memorization

TOP: Vertebral Column

CHAP: Back

9. An articulation is a point of contact between bones.

ANS: T

DIF: memorization

TOP: Articulations Introduction

CHAP: Back

10. All synovial joints have an enclosed cavity with a lubricating fluid.

ANS: T

DIF: synthesis

TOP: Structure of Synovial Joints

CHAP: Back

11. Menisci are found in all synovial joints.

ANS: F

DIF: application

TOP: Structure of Synovial Joints

CHAP: Back

12. Menisci are pillowlike structures formed of synovial membranes filled with synovial fluid.

ANS: F

DIF: synthesis

TOP: Structure of Synovial Joints

CHAP: Back

13. Hinge joints permit adduction and abduction.

ANS: F

DIF: memorization

TOP: Types of Synovial Joints

CHAP: Back

14. A gliding joint is a form of uniaxial joint.

ANS: F

DIF: memorization

TOP: Types of Synovial Joints

CHAP: Back

15. As a group, gliding joints are the least movable of the synovial joints.

ANS: T

DIF: memorization

TOP: Types of Synovial Joints

CHAP: Back

16. A "slipped disk" is the result of deterioration of the nucleus pulposus.

ANS: T

DIF: application

TOP: Vertebral Joints

CHAP: Back

17. A joint must allow movement between two bones to be called a *joint*.

ANS: F

DIF: memorization

TOP: Introduction

CHAP: Back

18. All fibrous joints are completely fixed joints.

ANS: F

DIF: memorization
TOP: Fibrous Joints
CHAP: Back

19. Most symphyses are located in the midline of the body.

ANS: T
DIF: memorization
TOP: Cartilaginous Joints
CHAP: Back

20. The vertebral column contains both cartilaginous joints and synovial joints.

ANS: T
DIF: memorization
TOP: Cartilaginous Joints
CHAP: Back

21. There are more synovial joints in the body than any other type of joint.

ANS: T
DIF: memorization
TOP: Synovial Joints
CHAP: Back

22. The elbow and the dens of the axis are both part of a uniaxial joint.

ANS: T
DIF: application
TOP: Types of Synovial Joints
CHAP: Back

23. Damage to the joint between the articulating surfaces of the vertebra can cause what is commonly called a slipped disk.

ANS: F
DIF: memorization
TOP: Representative Synovial Joints
CHAP: Back

24. If you are standing up and looking straight up toward the sky, your cervical spine will be hyperextended.

ANS: T
DIF: application

TOP: Angular Movements
CHAP: Back

25. *Myotome* is a term referring to a skeletal muscle group innervated by motor neuron axons from a given spinal nerve.

ANS: T
DIF: memorization
TOP: Dermatomes and Myotomes
CHAP: Back

26. The sacral plexus is found deep within the shoulder.

ANS: F
DIF: memorization
TOP: Sacral Plexus and Coccygeal Plexus
CHAP: Back

27. Skeletal muscles are somatic effectors.

ANS: T
DIF: memorization
TOP: Somatic Motor Nervous System
CHAP: Back

28. Autonomic effectors require two efferent neurons.

ANS: T
DIF: memorization
TOP: Structure of the Autonomic Nervous System
CHAP: Back

29. Each spinal nerve attaches to the spinal cord via two short roots.

ANS: T
DIF: memorization
TOP: Structure of Spinal Nerves
CHAP: Back

30. The parasympathetic division is the dominant controller of the body at rest.

ANS: T
DIF: memorization
TOP: Functions of the Parasympathetic Division
CHAP: Back

31. Sympathetic preganglionic neurons begin within the brain.

ANS: F

DIF: memorization

TOP: Sympathetic Preganglionic Neurons

CHAP: Back

32. The peripheral nervous system includes cranial nerves.

ANS: T

DIF: memorization

TOP: Introduction

CHAP: Back

33. The peripheral nervous system consists of 43 pairs of nerves and their branches.

ANS: T

DIF: application

TOP: Introduction

CHAP: Back

34. The peripheral nervous system contains only efferent nerves.

ANS: F

DIF: memorization

TOP: Introduction

CHAP: Back

35. Even though there are only seven cervical vertebra, this region generates eight cranial nerves.

ANS: T

DIF: memorization

TOP: Spinal Nerves

CHAP: Back

36. The nerves emerging from the lower lumbar and sacral regions branch from a structure called the *cauda equina*, not the spinal cord itself.

ANS: T

DIF: memorization

TOP: Spinal Nerves

CHAP: Back

37. The spinal ganglion is located on the anterior nerve root.

ANS: F

DIF: memorization

TOP: Structure of the Spinal Nerves

CHAP: Back

38. Branches of the posterior ramus innervate the skin and muscles of the posterior surface of the head, neck, and trunk.

ANS: T

DIF: memorization

TOP: Structure of the Spinal Nerves

CHAP: Back

39. Nerve plexuses of the thoracic region innervate the abdominal organs.

ANS: F

DIF: memorization

TOP: Nerve Plexuses

CHAP: Back

40. The brachial plexus is the only plexus that contains a thoracic spinal nerve.

ANS: T

DIF: Nerve Plexuses/ Brachial Plexus

TOP: True

CHAP: Back

41. There is almost no overlap in the dermatomes of the body.

ANS: F

DIF: memorization

TOP: Dermatomes and Myotomes

CHAP: Back

42. Reflexes are always unconscious or involuntary.

ANS: F

DIF: memorization

TOP: Nature of a Reflex

CHAP: Back

43. A reflex always includes a muscle contraction or a gland secretion.

ANS: T

DIF: memorization
TOP: Nature of a Reflex
CHAP: Back

44. In most cases, the effects of the sympathetic and parasympathetic divisions of the autonomic nervous system are antagonistic to each other.

ANS: T
DIF: memorization
TOP: Autonomic Nervous System
CHAP: Back

45. The somatic and visceral nervous systems are similar in that they both have two efferent neurons between the central nervous system and the effector organ.

ANS: F
DIF: memorization
TOP: Structure of the Autonomic Nervous System
CHAP: Back

46. The gray ramus consists of postganglionic fibers of the sympathetic nervous system.

ANS: T
DIF: application
TOP: Function of the Autonomic Nervous System
CHAP: Back

47. Sensory receptors make it possible for the body to respond to stimuli caused by changes occurring in our external or internal environment.

ANS: T
DIF: memorization
TOP: Sensory Receptors
CHAP: Back

48. Somatic sense receptors are distributed evenly throughout the body.

ANS: F
DIF: memorization
TOP: Distribution of Receptors
CHAP: Back

49. Proprioceptors are receptors for touch, pain, heat, and cold.

ANS: F
DIF: memorization

TOP: Classification by Location
CHAP: Back

50. You feel hungry because of a proprioceptor.

ANS: F
DIF: memorization
TOP: Classification by Location
CHAP: Back

51. Proprioceptors are activated by a change in temperature.

ANS: F
DIF: memorization
TOP: Classification by Location
CHAP: Back

52. Somatic sense receptors located in muscles and joints are called *proprioceptors*.

ANS: T
DIF: synthesis
TOP: Classification by Location
CHAP: Back

53. Referred pain may be caused by deep organ receptor and skin area receptors entering the same segment of the spinal cord.

ANS: T
DIF: memorization
TOP: Referred Pain
CHAP: Back

54. When "central" and "peripheral" are used as directional terms in the nervous system, a nerve fiber may be called *peripheral* if it extends from the cell body away from the central nervous system.

ANS: T
DIF: memorization
TOP: Central and Peripheral Nervous Systems
CHAP: Back

55. The central nervous system is composed of efferent nerves only.

ANS: F
DIF: memorization

TOP: Afferent and Efferent Divisions
CHAP: Back

56. The peripheral nervous system includes both efferent and afferent nerves.

ANS: T
DIF: memorization
TOP: Afferent and Efferent Divisions
CHAP: Back

57. Pathways from the autonomic nervous system which arise from the thoracic region of the spinal cord would be sympathetic pathways.

ANS: T
DIF: application
TOP: Somatic and Autonomic Nervous System
CHAP: Back

58. Pathways from the autonomic nervous system which leave the central nervous system from the brain would be sympathetic pathways.

ANS: F
DIF: application
TOP: Somatic and Autonomic Nervous System
CHAP: Back

59. The central nervous system includes the brain, spinal cord, and autonomic nerves.

ANS: F
DIF: memorization
TOP: Central Nervous System Introduction
CHAP: Back

60. The central nervous system includes all of the nervous system except the peripheral nervous system.

ANS: T
DIF: memorization
TOP: Central Nervous System Introduction
CHAP: Back

61. The meninges are protective coverings, continuous around the brain and spinal cord.

ANS: T
DIF: application

TOP: Coverings of the Brain and Spinal Cord
CHAP: Back

62. Cerebrospinal fluid circulates in the subarachnoid space of the meninges.

ANS: T
DIF: memorization
TOP: Formation and Circulation of Cerebrospinal Fluid
CHAP: Back

63. The spinal cord completely fills the vertebral canal in the vertebral column.

ANS: F
DIF: memorization
TOP: Structure of the Spinal Cord
CHAP: Back

64. A physician can use lumbar puncture to withdraw cerebrospinal fluid from the subarachnoid space in the lumbar region of the spinal cord.

ANS: T
DIF: memorization
TOP: Lumbar Puncture
CHAP: Back

65. Somatic sensory neuron cell bodies are located in the dorsal root ganglia of the spinal nerves.

ANS: T
DIF: application
TOP: Structure of the Spinal Cord
CHAP: Back

66. Cerebrospinal fluid is not found in the subarachnoid space.

ANS: T
DIF: memorization
TOP: Fluid Spaces
CHAP: Back

67. The most superficial border of the subarachnoid space is the dura mater.

ANS: F
DIF: application
TOP: Coverings of the Brain and Spinal Cord
CHAP: Back

68. The filum terminale is the name given to the dura mater below the spinal cord.

ANS: F

DIF: memorization

TOP: Coverings of the Brain and Spinal Cord

CHAP: Back

69. The spinal cord extends from the foramen magnum to the fifth lumbar vertebra.

ANS: F

DIF: memorization

TOP: Structure of the Spinal Cord

CHAP: Back

70. The dorsal root ganglion consists of cell bodies of unipolar sensory neurons.

ANS: T

DIF: memorization

TOP: Structure of the Spinal Cord

CHAP: Back

71. All spinal nerves are mixed nerves.

ANS: T

DIF: application

TOP: Structure of the Spinal Cord

CHAP: Back

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

ANS: T

DIF: memorization

TOP: Spinal Nerves

CHAP: Back

73. The anterior rami of all spinal nerves subdivide to form complex networks called *plexuses*.

ANS: F

DIF: memorization

TOP: Structure of Spinal Nerves

CHAP: Back

74. Each spinal nerve attaches to the spinal cord by means of two short roots, an anterior root and a posterior root.

ANS: T

DIF: memorization

TOP: Structure of Spinal Nerves

CHAP: Back

75. The phrenic nerve is a branch of the brachial plexus.

ANS: F

DIF: application

TOP: Cervical Plexus

CHAP: Back

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

ANS: T

DIF: memorization

TOP: Dermatomes and Myotomes

CHAP: Back

77. Somatic reflexes are contractions of smooth muscles.

ANS: F

DIF: memorization

TOP: Nature of a Reflex

CHAP: Back

78. Visceral effectors are innervated by sympathetic fibers.

ANS: T

DIF: application

TOP: Autonomic Nervous System

CHAP: Back

79. Effectors that have single innervation by the autonomic nervous system are innervated only by the parasympathetic division.

ANS: F

DIF: memorization

TOP: Autonomic Nervous System

CHAP: Back

80. Most effectors of the autonomic system are dually innervated by sympathetic and parasympathetic neurons.

ANS: T

DIF: memorization

TOP: Autonomic Nervous System

CHAP: Back

81. Sensory neurons can operate in autonomic reflex arcs.

ANS: T

DIF: application

TOP: Structure of the Autonomic Nervous System

CHAP: Back

82. Preganglionic neurons conduct impulses from the brain or spinal cord to an autonomic ganglion.

ANS: T

DIF: memorization

TOP: Structure of the Autonomic Nervous System

CHAP: Back

83. Conduction to autonomic effectors requires only one efferent neuron.

ANS: F

DIF: memorization

TOP: Structure of the Autonomic Nervous System

CHAP: Back

84. Sympathetic responses are usually widespread, involving many organ systems at once.

ANS: T

DIF: memorization

TOP: Sympathetic Postganglionic Neurons

CHAP: Back

85. The parasympathetic division is also called the *thoracolumbar division*.

ANS: F

DIF: memorization

TOP: Structure of the Sympathetic Pathways

CHAP: Back

86. Parasympathetic stimulation has no effect on sweat glands.

ANS: T

DIF: memorization

TOP: Autonomic Functions

CHAP: Back

87. The sympathetic division is the dominant controller of the body at rest.

ANS: F

DIF: synthesis

TOP: Functions of the Autonomic Nervous System

CHAP: Back

88. Each spinal nerve branches into three rami: an anterior ramus, a posterior ramus, and an autonomic or visceral branch.

ANS: F

DIF: memorization

TOP: Structure of Spinal Nerves

CHAP: Back

89. All cell bodies of the autonomic nervous system are located within the CNS.

ANS: F

DIF: application

TOP: Divisions of the Peripheral Nervous System

CHAP: Back

90. Once inside the sympathetic chain ganglion, the preganglionic fiber will always synapse with a sympathetic postganglionic neuron.

ANS: F

DIF: application

TOP: Structure of the Autonomic Nervous System

CHAP: Back

91. The "fight-or-flight" reaction is a normal response in times of stress.

ANS: T

DIF: memorization

TOP: Functions of the Autonomic Nervous System

CHAP: Back

92. Under normal, nonstressful conditions, the parasympathetic division is dominant.

ANS: T

DIF: memorization

TOP: Functions of the Parasympathetic Division

CHAP: Back

93. The spinal root that possesses a swelling is the posterior root.

ANS: T

DIF: memorization

TOP: Structure of Spinal Nerves

CHAP: Back

94. The dorsal root ganglion contains motor neuron cell bodies.

ANS: F

DIF: memorization

TOP: Structure of Spinal Nerves

CHAP: Back

95. The lower end of the spinal cord bears the name lumbosacral plexus.

ANS: F

DIF: memorization

TOP: Sacral Plexus and Coccygeal Plexus

CHAP: Back

96. There are 28 pairs of spinal nerves.

ANS: F

DIF: memorization

TOP: Spinal Nerves

CHAP: Back

97. Herpes zoster is a unique viral infection that almost always affects the skin of a single dermatome.

ANS: T

DIF: memorization

TOP: Herpes Zoster

CHAP: Back

98. Small, distinct regions of gray matter within the CNS are called *nuclei*.

ANS: T

DIF: memorization
TOP: Nerves and Tracts
CHAP: Back

99. Most nerves in the human nervous system are mixed (contain sensory and motor fibers).

ANS: T
DIF: memorization
TOP: Nerves and Tracts
CHAP: Back

100. Spinal nerves are considered part of the peripheral nervous system.

ANS: T
DIF: memorization
TOP: Central and Peripheral Nervous Systems
CHAP: Back

101. When "central" and "peripheral" are used as directional terms in the nervous system, a nerve fiber may be called *peripheral* if it extends from the cell body toward the central nervous system.

ANS: F
DIF: memorization
TOP: Central and Peripheral Nervous Systems
CHAP: Back

MULTIPLE CHOICE

1. Which is not a part of the axial skeleton?
- rib
 - vertebral column
 - mandible
 - clavicle

ANS: D
DIF: memorization
TOP: Divisions of Skeleton
CHAP: Back

2. The term *sinus*, as it relates to bone markings, may be defined as a:
- raised area or projection.
 - cavity within a bone.
 - tubelike opening or channel.
 - groove or elongated depression.

ANS: B

DIF: memorization

TOP: Divisions of Skeleton

CHAP: Back

3. Which bone is a part of the axial skeleton?

- a. rib
- b. clavicle
- c. radius
- d. pelvic bones

ANS: A

DIF: memorization

TOP: Divisions of Skeleton

CHAP: Back

4. Which bone is a part of the appendicular skeleton?

- a. scapula
- b. vertebra
- c. parietal
- d. mandible

ANS: A

DIF: memorization

TOP: Divisions of Skeleton

CHAP: Back

5. The skeletal framework of the neck consists of:

- a. lumbar vertebrae.
- b. thoracic vertebrae.
- c. sacral vertebrae.
- d. cervical vertebrae.

ANS: D

DIF: memorization

TOP: Vertebral Column

CHAP: Back

6. The number of thoracic vertebrae is:

- a. 5.
- b. 7.
- c. 10.
- d. 12.

ANS: D

DIF: memorization

TOP: Vertebral Column
CHAP: Back

7. All vertebrae, except the sacrum and coccyx, have a central opening called the:
- spinous process.
 - vertebral foramen.
 - dens.
 - transverse process.

ANS: B
DIF: memorization
TOP: Vertebral Column
CHAP: Back

8. A hunchback appearance of the thoracic region is probably due to:
- lordosis.
 - scoliosis.
 - kyphosis.
 - slipped disks.

ANS: C
DIF: memorization
TOP: Mechanisms of Disease
CHAP: Back

9. Lateral curvature of the spine is called:
- scoliosis.
 - lordosis.
 - kyphosis.
 - convexity.

ANS: A
DIF: memorization
TOP: Mechanisms of Disease
CHAP: Back

10. Going from superior to inferior, the sequence of the vertebral column is:
- sacral, coccyx, thoracic, lumbar, and cervical.
 - coccyx, sacral, lumbar, thoracic, and cervical.
 - cervical, lumbar, thoracic, sacral, and coccyx.
 - cervical, thoracic, lumbar, sacral, and coccyx.

ANS: D
DIF: application
TOP: Vertebral Column
CHAP: Back

11. The structure that furnishes the axis for the rotation of the head from side to side is the:

- a. dens.
- b. spinous process.
- c. vertebral foramen.
- d. transverse process.

ANS: A

DIF: memorization

TOP: Vertebral Column

CHAP: Back

12. Which of the following is not an example of a fibrous joint?

- a. symphyses
- b. sutures
- c. syndesmoses
- d. gomphoses

ANS: A

DIF: application

TOP: Fibrous Joints (Synarthrosis)

CHAP: Back

13. What are the most movable joints in the body?

- a. symphyses
- b. synovial joints
- c. syndesmoses
- d. synchondroses

ANS: B

DIF: memorization

TOP: Synovial Joints

CHAP: Back

14. Which joint allows for the widest range of movement?

- a. gliding
- b. saddle
- c. ball and socket
- d. hinge

ANS: C

DIF: memorization

TOP: Types of Synovial Joints

CHAP: Back

15. An example of a hinge joint is the:
- a. head of the radius articulating with the ulna.
 - b. interphalangeal joints.
 - c. first metacarpal articulating with the trapezium.
 - d. head of the humerus articulating with the scapula.

ANS: B

DIF: application

TOP: Types of Synovial Joints

CHAP: Back

16. Which joint allows for the following movements: flexion, extension, abduction, adduction, rotation, and circumduction?
- a. gliding
 - b. saddle
 - c. ball and socket
 - d. trochoid

ANS: C

DIF: synthesis

TOP: Types of Synovial Joints

CHAP: Back

17. Moving a part of the body forward is:
- a. protraction.
 - b. elevation.
 - c. inversion.
 - d. depression.

ANS: A

DIF: application

TOP: Special Movements

CHAP: Back

18. The type of movement that increases the angle between body parts is:
- a. flexion.
 - b. extension.
 - c. adduction.
 - d. abduction.

ANS: B

DIF: application

TOP: Angular Movements

CHAP: Back

19. Vertebral bodies are connected together by the:

- a. ligamenta flava.
- b. ligamentum nuchae.
- c. posterior longitudinal ligament.
- d. intertransverse ligaments.

ANS: C

DIF: application

TOP: Vertebral Joints

CHAP: Back

20. Deterioration of the nucleus pulposus can result in:

- a. "housemaid's knee."
- b. total hip replacement.
- c. osteoporosis.
- d. a "slipped disk" or herniated disk.

ANS: D

DIF: application

TOP: Vertebral Joints

CHAP: Back

21. The ligamenta flava is located in the:

- a. shoulder.
- b. hip.
- c. knee.
- d. none of the above.

ANS: D

DIF: memorization

TOP: Representative Synovial Joints

CHAP: Back

22. The opposite of dorsiflexion is:

- a. dorsiextension.
- b. abduction.
- c. plantar flexion.
- d. none of the above.

ANS: C

DIF: memorization

TOP: Angular Movements

CHAP: Back

23. Pain that is perceived as being superficial, but actually is caused by an underlying organ, is called:
- a. phantom pain.
 - b. referred pain.
 - c. chronic pain.
 - d. acute pain.

ANS: B

DIF: memorization

TOP: Referred Pain

CHAP: Back

24. Visceroceptors are located in which of the following?
- a. skin
 - b. tendons
 - c. internal organs
 - d. skeletal muscles

ANS: C

DIF: memorization

TOP: Classification by Location

CHAP: Back

25. The somatic senses enable us to detect sensations such as:
- a. touch.
 - b. temperature.
 - c. pain.
 - d. all of the above.

ANS: D

DIF: memorization

TOP: Sense Organs Introduction

CHAP: Back

26. The layer of the meninges that serves as the inner periosteum of the cranial bone is the:
- a. pia mater.
 - b. arachnoid membrane.
 - c. dura mater.

ANS: C

DIF: memorization

TOP: Coverings of the Brain and Spinal Cord

CHAP: Back

27. The innermost layer of the meninges is the:

- a. pia mater.
- b. arachnoid membrane.
- c. dura mater.

ANS: A

DIF: memorization

TOP: Coverings of the Brain and Spinal Cord

CHAP: Back

28. The main divisions of the central nervous system are the:

- a. brain, spinal cord, and autonomic nerves.
- b. brain, spinal cord, and peripheral nerves.
- c. brain and spinal cord.

ANS: C

DIF: memorization

TOP: Central Nervous System Introduction

CHAP: Back

29. *Meningitis* refers to inflammation of the:

- a. brain.
- b. meninges.
- c. spinal cord.

ANS: B

DIF: memorization

TOP: Meningitis

CHAP: Back

30. Cerebrospinal fluid is found in all except the:

- a. subarachnoid space.
- b. central canal.
- c. third ventricle.
- d. subdural space.

ANS: D

DIF: application

TOP: Fluid Spaces

CHAP: Back

31. If the anterior root of a spinal nerve were destroyed, a person would lose:

- a. sensory perception related to that pathway.
- b. motor output related to that pathway.
- c. reflex activity only, related to that pathway.
- d. both reflex activity and sensation related to that pathway.

ANS: B

DIF: application

TOP: Structure of the Spinal Cord

CHAP: Back

32. If the dorsal root ganglia of the spinal nerve were destroyed, a person would lose:

- a. sensory input to the CNS related to that pathway.
- b. willed movement related to the pathway.
- c. reflex activity only, related to that pathway.
- d. both reflex activity and sensation related to that pathway.

ANS: A

DIF: application

TOP: Structure of the Spinal Cord

CHAP: Back

33. Which of the following is not true?

- a. The spinal cord does not completely fill the vertebral canal.
- b. The spinal cord extends from the foramen magnum to the first lumbar vertebra.
- c. One bundle of nerve fibers (nerve roots) projects from each side of the spinal cord.
- d. The spinal cord has anterior and posterior grooves that almost divide the cord into symmetrical halves.

ANS: C

DIF: memorization

TOP: Structure of the Spinal Cord

CHAP: Back

34. The cerebrospinal fluid resides in the:

- a. ventricles of the brain.
- b. subarachnoid space.
- c. central canal of the spinal cord.
- d. all of the above.

ANS: D

DIF: memorization

TOP: Fluid Spaces

CHAP: Back

35. A way to distinguish between the anterior and posterior part of the spinal cord is:

- a. the dura mater is thickest on the posterior side.
- b. the posterior fissure is deeper and wider than the anterior fissure.
- c. the anterior fissure is deeper and wider than the posterior fissure.
- d. A and B.

ANS: C

DIF: memorization

TOP: Structure of the Spinal Cord

CHAP: Back

36. Which of the following is not a somatic sense?

- a. touch
- b. pressure
- c. proprioception
- d. all of the above are somatic senses

ANS: D

DIF: memorization

TOP: Sensory Functions of the Cortex

CHAP: Back

37. Which of the following is not a plexus of the spinal nerves?

- a. cervical
- b. brachial
- c. lumbar
- d. thoracic

ANS: D

DIF: memorization

TOP: Nerve Plexuses

CHAP: Back

38. 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.

ANS: D

DIF: memorization

TOP: Cervical Plexus

CHAP: Back

39. The spinal nerves are connected to the spinal cord and consist of:

- a. 12 pairs.
- b. 21 pairs.
- c. 31 pairs.
- d. 41 pairs.

ANS: C

DIF: memorization

TOP: Spinal Nerves
CHAP: Back

40. 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.

ANS: D
DIF: memorization
TOP: Structure of Spinal Nerves
CHAP: Back

41. 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.

ANS: C
DIF: memorization
TOP: Structure of Spinal Nerves
CHAP: Back

42. Somatic reflexes consist of:
- a. contractions of smooth muscle.
 - b. contractions of cardiac muscle.
 - c. glandular contractions.
 - d. contractions of skeletal muscles.

ANS: D
DIF: memorization
TOP: Nature of a Reflex
CHAP: Back

43. 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

ANS: A
DIF: memorization
TOP: Autonomic Nervous System
CHAP: Back

44. Once inside the sympathetic chain ganglion, the preganglionic fiber may:
- synapse with a sympathetic postganglionic neuron.
 - send ascending and/or descending branches through the sympathetic trunk to synapse with postganglionic neurons in other chain ganglia.
 - pass through one or more ganglia without synapsing.
 - all of the above.

ANS: D

DIF: memorization

TOP: Structure of the Autonomic Nervous System

CHAP: Back

45. All of the following are examples of parasympathetic stimulation except:
- contraction of the urinary bladder.
 - relaxation of the sphincters of the digestive tract.
 - increased salivation.
 - increased heart rate.

ANS: D

DIF: application

TOP: Functions of the Autonomic Nervous System

CHAP: Back

46. Parasympathetic stimulation has no effect on any of the following areas except:
- sweat glands.
 - skin blood vessels.
 - liver.
 - urinary bladder.

ANS: D

DIF: application

TOP: Functions of the Parasympathetic Division

CHAP: Back

47. All of the following are examples of sympathetic stimulation except:
- decreased secretion in the pancreas.
 - constriction of the urinary sphincters.
 - constriction of the bronchioles.
 - dilation of skeletal muscle blood vessels.

ANS: C

DIF: memorization

TOP: Functions of the Sympathetic Division

CHAP: Back

48. 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.

ANS: D

DIF: application

TOP: Functions of the Parasympathetic Division

CHAP: Back

49. 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.

ANS: C

DIF: memorization

TOP: Spinal Nerves

CHAP: Back

50. 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.

ANS: C

DIF: memorization

TOP: Introduction

CHAP: Back

51. The peripheral nervous system includes:

- a. autonomic nerves.
- b. sensory nerves.
- c. somatic nerves.
- d. all of the above.

ANS: D

DIF: memorization

TOP: Introduction

CHAP: Back

52. 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

ANS: A

DIF: memorization

TOP: Spinal Nerves

CHAP: Back

53. Which is not true of the anterior nerve root?
- a. It is also called the *ventral root*.
 - b. It contains the spinal ganglion.
 - c. It includes motor neurons.
 - d. All of the above are true.

ANS: B

DIF: memorization

TOP: Structure of Spinal Nerves

CHAP: Back

54. Which is not true of the posterior root?
- a. It is also called the *dorsal root*.
 - b. It includes the spinal ganglion.
 - c. It includes sensory fibers.
 - d. All of the above are true.

ANS: D

DIF: memorization

TOP: Structure of the Spinal Nerves

CHAP: Back

55. 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

ANS: D

DIF: application

TOP: Nerve Plexuses/Brachial Plexus

CHAP: Back

56. The part of the nervous system that transmits impulses from the CNS to the skeletal muscle is the:
- a. somatic motor nervous system.
 - b. autonomic nervous system.
 - c. central nervous system.
 - d. afferent division.

ANS: A

DIF: memorization

TOP: Somatic and Autonomic Nervous Systems

CHAP: Back

57. Gray matter in the brain and spinal cord consists primarily of:
- a. nerve fibers.
 - b. neuroglia.
 - c. axons.
 - d. cell bodies.

ANS: D

DIF: memorization

TOP: Nerves and Tracts

CHAP: Back

58. The white matter of the nervous system is made up of:
- a. myelinated fibers.
 - b. nuclei.
 - c. unmyelinated fibers.
 - d. ganglia.

ANS: A

DIF: memorization

TOP: Nerves and Tracts

CHAP: Back

59. Nerves that contain mostly afferent fibers are called:
- a. sensory nerves.
 - b. motor nerves.
 - c. mixed nerves.
 - d. Schwann nerves.

ANS: A

DIF: memorization

TOP: Functional Classification

CHAP: Back

60. White matter in the CNS consists of:

- a. myelinated nerve fibers.
- b. neuroglia.
- c. axons.
- d. cell bodies.

ANS: A

DIF: memorization

TOP: Nerves and Tracts

CHAP: Back

MATCHING

Match the following terms with their main action.

- a. abductors
- b. adductors
- c. extensors
- d. flexors
- e. pronators
- f. supinators

1. _____ increase the angle of a joint.

ANS: C

DIF: application

TOP: Extension and Hyperextension

CHAP: Back

Match the following terms with their main action.

- a. abductors
- b. adductors
- c. extensors
- d. flexors
- e. pronators
- f. supinators

2. _____ decrease the angle of a joint.

ANS: D

DIF: application

TOP: Flexion

CHAP: Back

Match the description of the structure of the synovial joint with the correct term.

- a. articular cartilage
- b. synovial membrane
- c. joint cavity
- d. menisci
- e. fibrous membrane
- f. ligaments
- g. bursae

3. _____ A thin layer of cartilage covering the articulating surfaces of the bones.

ANS: A

DIF: memorization

TOP: Structure of Synovial Joints

CHAP: Back

Match the following phrases with the division(s) of the autonomic nervous system most closely described.

- a. sympathetic
- b. parasympathetic
- c. both sympathetic and parasympathetic

4. _____ chain of postganglionic neurons

ANS: A

DIF: memorization

TOP: Structure of the Autonomic Nervous System

CHAP: Back

Match the following phrases with the division(s) of the autonomic nervous system most closely described.

- a. sympathetic
- b. parasympathetic
- c. both sympathetic and parasympathetic

5. _____ ganglia lie near or in visceral effectors

ANS: B

DIF: memorization

TOP: Structure of the Autonomic Nervous System

CHAP: Back

Match the following phrases with the division(s) of the autonomic nervous system most closely described.

- a. sympathetic
- b. parasympathetic

- c. both sympathetic and parasympathetic
6. _____ activated under stress conditions

ANS: A

DIF: memorization

TOP: Functions of the Sympathetic Division

CHAP: Back

Match the following phrases with the division(s) of the autonomic nervous system most closely described.

- a. sympathetic
- b. parasympathetic
- c. both sympathetic and parasympathetic

7. _____ responses are usually widespread, involving many organs

ANS: A

DIF: memorization

TOP: Parasympathetic Postganglionic Neurons

CHAP: Back

Match the following phrases with the division(s) of the autonomic nervous system most closely described.

- a. sympathetic
- b. parasympathetic
- c. both sympathetic and parasympathetic

8. _____ slows the heart rate

ANS: B

DIF: memorization

TOP: Autonomic Functions

CHAP: Back

Match the following phrases with the division(s) of the autonomic nervous system most closely described.

- a. sympathetic
- b. parasympathetic
- c. both sympathetic and parasympathetic

9. _____ associated with "fight-or-flight" response

ANS: A

DIF: memorization

TOP: Functions of the Sympathetic Division
CHAP: Back

Match the following descriptions with the types of neurons.

- a. afferent
- b. efferent
- c. interneuron

10. _____ innervates glands

ANS: B
DIF: application
TOP: Functional Classification
CHAP: Back

Match the following descriptions with the types of neurons.

- a. afferent
- b. efferent
- c. interneuron

11. _____ found completely in brain and spinal cord

ANS: C
DIF: memorization
TOP: Functional Classification
CHAP: Back

Match the following descriptions with the types of neurons.

- a. afferent
- b. efferent
- c. interneuron

12. _____ innervates muscles

ANS: B
DIF: memorization
TOP: Functional Classification
CHAP: Back

Match the following descriptions with the types of neurons.

- a. afferent
- b. efferent
- c. interneuron

13. _____ carries impulses toward spinal cord and brain

ANS: A

DIF: memorization

TOP: Functional Classification

CHAP: Back

Match the following descriptions with the types of neurons.

- a. afferent
- b. efferent
- c. interneuron

14. _____ connects sensory and motor neurons

ANS: C

DIF: memorization

TOP: Functional Classification

CHAP: Back

Match the following descriptions with the types of neurons.

- a. afferent
- b. efferent
- c. interneuron

15. _____ carries sensory impulses only

ANS: A

DIF: memorization

TOP: Reflex Arc

CHAP: Back

Match the description of the structure of the synovial joint with the correct term.

- a. articular cartilage
- b. synovial membrane
- c. joint cavity
- d. menisci
- e. fibrous membrane
- f. ligaments
- g. bursae

16. _____ Small space between two articulating bones.

ANS: C

DIF: memorization

TOP: Structure of Synovial Joints

CHAP: Back

Match the description of the structure of the synovial joint with the correct term.

- a. articular cartilage
- b. synovial membrane
- c. joint cavity
- d. menisci
- e. fibrous membrane
- f. ligaments
- g. bursae

17. _____ Secretes a lubricating fluid into the joint capsule.

ANS: B

DIF: memorization

TOP: Structure of Synovial Joints

CHAP: Back

Match the description of the structure of the synovial joint with the correct term.

- a. articular cartilage
- b. synovial membrane
- c. joint cavity
- d. menisci
- e. fibrous membrane
- f. ligaments
- g. bursae

18. _____ Pads of fibrocartilage between articulating bones.

ANS: D

DIF: memorization

TOP: Structure of Synovial Joints

CHAP: Back

Match the description of the structure of the synovial joint with the correct term.

- a. articular cartilage
- b. synovial membrane
- c. joint cavity
- d. menisci
- e. fibrous membrane
- f. ligaments
- g. bursae

19. _____ Strong cords of dense white connective tissue which help stabilize a joint.

ANS: F

DIF: memorization

TOP: Structure of Synovial Joints
CHAP: Back

Match the description of the structure of the synovial joint with the correct term.

- a. articular cartilage
- b. synovial membrane
- c. joint cavity
- d. menisci
- e. fibrous membrane
- f. ligaments
- g. bursae

20. _____ These structures cushion and facilitate movement in a joint.

ANS: G

DIF: memorization

TOP: Structure of Synovial Joints

CHAP: Back

Match the description of the structure of the synovial joint with the correct term.

- a. articular cartilage
- b. synovial membrane
- c. joint cavity
- d. menisci
- e. fibrous membrane
- f. ligaments
- g. bursae

21. _____ These pads divide the joint cavity into two cavities.

ANS: D

DIF: memorization

TOP: Structure of Synovial Joints

CHAP: Back

Match the description of the structure of the synovial joint with the correct term.

- a. articular cartilage
- b. synovial membrane
- c. joint cavity
- d. menisci
- e. fibrous membrane
- f. ligaments
- g. bursae

22. ____ A sleevelike extension of the periosteum of each of the articulating bones in a joint.

ANS: E

DIF: memorization

TOP: Structure of Synovial Joints

CHAP: Back

Match the description of the structure of the synovial joint with the correct term.

- a. articular cartilage
- b. synovial membrane
- c. joint cavity
- d. menisci
- e. fibrous membrane
- f. ligaments
- g. bursae

23. ____ A moist, slippery membrane that lines the inner bone surface of a joint capsule.

ANS: B

DIF: memorization

TOP: Structure of Synovial Joints

CHAP: Back

Match the description of the structure of the synovial joint with the correct term.

- a. articular cartilage
- b. synovial membrane
- c. joint cavity
- d. menisci
- e. fibrous membrane
- f. ligaments
- g. bursae

24. ____ These grow between the bones of a joint, holding them together more firmly than a joint capsule alone.

ANS: F

DIF: memorization

TOP: Structure of Synovial Joints

CHAP: Back

Match the following muscles with their action.

- a. abduction
- b. adduction
- c. flexion
- d. extension

25. _____ semispinalis capitis

ANS: D

DIF: application

TOP: Selected Muscles Grouped According to Function

CHAP: Back