1. The foramen ovale in the skull :
A. allows entrance of the spinal part of the accessory nerve into the cranial cavity.
B. is located in the petrous part of the temporal bone.
C. allows entrance of the middle meningeal artery into the cranial cavity.
D. allows exit of the mandibular division of the trigeminal nerve.
E. allows exit of the glossopharyngeal nerve.

2. The foramen spinosum in the skull :
A. allows exit of the facial nerve.
B. is located in the lesser wing of the sphenoid.
C. allows entrance of the middle meningeal artery into the cranial cavity.
D. allows exit of the maxillary division of the trigeminal nerve.
E. allows passage only of emissary veins.

3. The internal acoustic meatus in the skull :
A. is located in the body of the sphenoid bone.
B. is located in the mastoid bone.
C. allows passage of the glossopharyngeal nerve.
D. allows passage of the facial nerve only.
E. allows passage of the vestibulocochlear nerve and the facial nerve.

4. The foramen magnum in the skull
A. allows entrance of the spinal part of the accessory nerve into the cranial cavity.
B. allows exit of the spinal part of the accessory nerve out of the cranial cavity.
C. is located in the sphenoid bone.
D. is located in the temporal bone.
E. allows entrance of the cranial part of the accessory nerve.

5. The jugular foramen in the skull
A. is located in the petrous part of the temporal bone.
B. allows exit of the hypoglossal nerve.
C. is located in the middle cranial fossa.
D. allows exit of the vagus nerve.
E. allows entrance of the external jugular vein.

6. The nasolacrimal duct drains into the
A. lacrimal sac.
B. inferior meatus of the nose.
C. superior meatus of the nose.
D. middle meatus of the nose.
E. sphenoethmoidal recess.

7. The muscles or nerves that are responsible for adducting the eyeball (rotating the cornea medially) include the following except which?
A. The superior rectus muscle
B. The medial rectus muscle
C. The oculomotor nerve
D. The inferior oblique muscle
E. The inferior rectus muscle

8. Infection of the middle ear can spread along all the following pathways except which?
A. Through the tegmen tympani to the middle cranial fossa
B. Through the medial wall into the labyrinth
C. Through the canal for the tensor tympani muscle into the internal carotid artery
D. Through the floor into the internal jugular vein
E. Through the aditus to the mastoid antrum into the mastoid air cells

9. Compression of the facial nerve in the facial canal in the posterior wall of the middle ear could result in all the following except which?
A. A cessation of lacrimal secretion
B. Paralysis of the posterior belly of the digastric muscle
C. Inability to whistle
D. Decreased saliva in the mouth
E. Loss of taste sensation to the anterior two-thirds of the tongue

10. The following statements concerning the structures in the neck are correct except which?
A. The parotid salivary gland contains within its substance the facial nerve and the external carotid artery.
B. The parotid duct opens into the mouth opposite the upper second molar tooth.
C. As the trachea descends through the neck it rests posteriorly on the vertebral column.
D. The nerve to the mylohyoid muscle innervates the anterior belly of the digastric muscle.
E. The hypoglossal nerve innervates the muscles of the tongue.

11. The following general statements concerning structures in the head and neck are correct except which?
A. The sensory nerve supply to the mucous membrane lining the upper part of the trachea is from the recurrent laryngeal nerve.
B. The spinal part of the accessory nerve can be injured easily as it crosses the posterior triangle of the neck.

C. The afferent sensory nerve fibers for the gag reflex are contained in the glossopharyngeal nerve.
D. The afferent sensory nerve fibers for the cough reflex are contained in the vagus nerve.
E. The sternocleidomastoid and the trapezius muscles receive their innervation from the cranial part of the accessory nerve.

12. The following statements concerning the middle cranial fossa are correct except which?
A. The pituitary gland (hypophysis cerebri) is related anterosuperiorly to the optic chiasma.
B. The pituitary gland receives its blood supply from the middle meningeal arteries.
C. The oculomotor nerve passes forward in the lateral wall of the cavernous sinus.
D. The internal carotid artery passes forward through the cavernosa sinus.
E. The abducent nerve passes forward through the cavernous sinus.

13. The following general statements concerning the tympanic membrane are correct except which?
A. It is pearly gray in color.
B. It is concave laterally.
C. It is crossed by the chorda tympani over the medial surface of the inferior part of the membrane.
D. It is best visualized in the adult by pulling the auricle upward and backward.
E. The inner surface is covered with mucous membrane.

14. Impaired function of which of the following muscles produce difficulty in protruding the jaw?
A. The anterior belly of the digastric muscle
B. The lateral pterygoid
C. The medial pterygoid
D. The masseter
E. The temporalis

15. Which of the following muscles is responsible for protruding the tongue?
A. The styloglossus
B. The hyoglossus
C. The genioglossus
D. The palatoglossus
E. The mylohyoid

16. Which of the following nerves might be injured when tying the inferior thyroid artery during operations on the thyroid gland?
A. The sympathetic trunk
B. The internal laryngeal nerve
C. The descendens cervicalis
D. The recurrent laryngeal nerve
E. The superior laryngeal nerve

17. A patient has lost cutaneous sensation over the tip of the nose. Which nerve is most likely to be damaged?
A. The facial nerve
B. The ophthalmic division of the trigeminal nerve
C. The greater auricular nerve
D. The mandibular division of the trigeminal nerve
E. The maxillary division of the trigeminal nerve

18. A patient has a boil on the tip of her nose. To which lymph nodes does the lymph from the skin of the infected area drain?
A. Submandibular nodes
B. Submental nodes
C. Parotid nodes
D. Superficial cervical nodes
E. Tracheobronchial nodes

19. A patient having lunch accidentally bit the inside of her left cheek. To which lymph nodes are infecting bacteria likely to spread?
A. Mastoid nodes
B. Parotid nodes
C. Submental nodes
D. Superficial cervical nodes
E. Submandibular nodes

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20. The long head of the biceps femoris muscle is innervated by the
A. obturator nerve.
B. tibial portion of the sciatic nerve.
C. femoral nerve.
D. common peroneal nerve.
E. sural nerve.

21. The gracilis muscle is innervated by the
A. femoral nerve.
B. common peroneal nerve.
C. sural nerve.
D. obturator nerve.
E. tibial portion of the sciatic nerve.

22. The gluteus maximus muscle is innervated by the
A. inferior gluteal nerve.
B. nerve to quadratus femoris.
C. obturator nerve.
D. superior gluteal nerve.
E. nerve to obturator internus.

23. The sartorius muscle is innervated by the

A. obturator nerve.
B. femoral nerve.
C. nerve to vastus medialis.
D. superior gluteal nerve.
E. lateral cutaneous nerve of the thigh.

24. The hamstring portion of the adductor magnus muscle is innervated by the
A. common peroneal nerve.
B. tibial portion of the sciatic nerve.
C. obturator nerve.
D. femoral nerve.
E. nerve to the pectineus muscle.

25. The adductor longus muscle is innervated by the
A. femoral nerve.
B. common peroneal nerve.
C. tibial portion of the sciatic nerve.
D. anterior division of the obturator nerve.
E. posterior division of the obturator nerve.

26. The sciatic nerve enters the gluteal region through
which foramen?
A. Posterior sacral
B. Greater sciatic
C. Anterior sacral
D. Lesser sciatic
E. Obturator

27. The common peroneal nerve can be palpated in which region of the knee?
A. As it winds around the medial side of the neck of the fibula.
B. As it passes around the medial condyle of the tibia.
C. As it winds around the lateral side of the neck of the fibula.
D. As it passes forward between the tibia and the fibula.
E. As it crosses the lateral side of the head of the fibula..

28. The femoral nerve arises from which of the following segments of the spinal cord?
A. L2 and 3
B. L4 and 5 and S1, 2, and 3
C. L2, 3, and 4
D. L1 and 2
E. L5 and S1, 2, and 3

29. The dermatome present over the lateral side of the foot is which of the following?
A. S5
B. L3
C. S1
D. L4
E. L5
E. The processus vaginalis

30. Injury to the common peroneal nerve results in which condition?
A. Inability to invert the foot
B. Inability to plantar flex the ankle
C. Inability to feel skin sensation on the medial side of the leg
D. Inability to plantar flex the big toe
E. Inability to evert the foot

31. After a lesion of the tibial part of the sciatic nerve, some active flexion may still be possible at the knee joint; the muscles responsible for this remaining flexion include which?
A. The short head of the biceps femoris muscle
B. The gastrocnemius muscle
C. The plantaris muscle
D. The popliteus muscle
E. The long head of the biceps femoris muscle

32. The following statements regarding the obturator nerve are correct except which?
A. It originates from the lumbar plexus.
B. It enters the thigh immediately beneath the inguinal ligament.
C. It innervates the adductor muscles of the thigh.
D. It divides into an anterior and a posterior division.
E. It supplies the skin on the medial side of the thigh.

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33. The following part or branch of the brachial plexus receives contributions from the C8 spinal nerve.
A. Lateral cord
B. Lateral pectoral nerve
C. Posterior cord
D. Nerve to the rhomboid muscles
E. Suprascapular nerve
F. Nerve to subclavius muscle

34. The following part or branch of the brachial plexus has a terminal branch that supplies the skin on the medial side of the arm.
A. Musculocutaneous nerve
B. Lateral cord
C. Thoracodorsal nerve
D. Medial cord
E. Upper subscapular nerve
F. Ulnar nerve

35. The following part of the brachial plexus is formed from the anterior divisions of two trunks.
A. Lateral cord
B. Posterior cord
C. Median nerve
D. Medial cord
E. Lower trunk
F. None of the above

36. The following part of the brachial plexus has branches that supply the extensor muscles of the arm.
A. Lateral cord
B. Medial cord
C. Posterior cord
D. Thoracodorsal nerve
E. Lateral and medial cords
F. None of the above

37. During its course in the upper limb, the axillary nerve lies
A. in front of the lateral epicondyle of the humerus.
B. against the spiral groove of the humerus.
C. medial to the brachial artery in the cubital fossa.
D. against the surgical neck of the humerus.
E. behind the medial epicondyle of the humerus.
F. in front of the medial epicondyle of the humerus.

38. During its course in the upper limb, the ulnar nerve lies
A. in front of the lateral epicondyle of the humerus.
B. behind the flexor retinaculum of the wrist.
C. against the spiral groove of the humerus.
D. medial to the brachial artery in the cubital fossa.
E. against the surgical neck of the humerus.
F. behind the medial epicondyle of the humerus.

39. During its course in the upper limb, the median nerve lies
A. anterior to the flexor retinaculum of the wrist.
B. in front of the lateral epicondyle of the humerus.
C. against the spiral groove of the humerus.
D. against the surgical neck of the humerus.
E. within the quadrangular muscle space.
F. medial to the brachial artery in the cubital fossa.

40. During its course in the upper limb the radial nerve lies
A. against the spiral groove of the humerus.
B. in front of the medial epicondyle of the humerus.
C. behind the flexor retinaculum of the wrist.
D. medial to the brachial artery in the cubital fossa.
E. against the surgical neck of the humerus.
F. behind the medial epicondyle of the humerus.

41. The extensor carpi radialis brevis muscle is innervated by the
A. radial nerve.
B. ulnar nerve.
C. superficial radial nerve.
D. deep branch of the radial nerve.
E. deep branch of the ulnar nerve.
F. None of the above.

42. The dorsal interossei muscles are innervated by the
A. deep branch of the radial nerve.
B. deep branch of the ulnar nerve.
C. musculocutaneous nerve.
D. superficial branch of the ulnar nerve.
E. median nerve.
F. recurrent branch of the median nerve.

43. The extensor indicis muscle is innervated by the
A. radial nerve.
B. ulnar nerve.
C. median nerve.
D. deep branch of the radial nerve.
E. deep branch of the ulnar nerve.
F. musculocutaneous nerve.

44. The extensor carpi ulnaris muscle is innervated by the
A. median nerve.
B. deep branch of the ulnar nerve.
C. ulnar nerve.
D. radial nerve.
E. deep branch of the radial nerve.
F. superficial branch of the ulnar nerve.

45. The extensor carpi radialis longus muscle is innervated by the
A. deep branch of the ulnar nerve.
B. ulnar nerve.
C. radial nerve.
D. median nerve.
E. anterior interosseous nerve.
F. musculocutaneous nerve.

46. Cutting the dorsal scapular nerve would most likely result in paralysis of the
A. supraspinatus muscle.
B. deltoid muscle.
C. rhomboid major muscle.
D. trapezius muscle.
E. infraspinatus muscle.

47. After injury to a nerve at the wrist, the thumb is laterally rotated and adducted. The hand looks flattened and apelike. The nerve that has been damaged is the
A. anterior interosseous nerve.
B. ulnar nerve.
C. deep branch of the radial nerve.
D. median nerve.
E. superficial branch of the radial nerve.

48. The dermatome present over the lateral side of the wrist
is
A. C8.
B. C6.
C. T1.
D. T2.
E. C5.

49. The following statements concerning the lateral cord of the brachial plexus are true except which?
A. It contains sympathetic nerve fibers
B. It has a branch that supplies the pectoralis major muscle
C. It has a branch that supplies the skin on the lateral side of the forearm
D. It has a branch that supplies the skin on the lateral side of the upper arm
E. It lies lateral to the second part of the axillary artery

50. An examination of a patient with carpal tunnel syndrome may reveal all the following symptoms and signs except which?
A. Atrophy of the muscles of the thenar eminence
B. Weakness in opposition of the thumb
C. Loss of skin sensation on the medial part of the palm
D. Loss of skin sensation on the anterior surface of the

index finger
E. Normal skin sensation on the anterior surface of the little finger

51. The following movements are expected to be normal after a complete section of the medial cord of the brachial plexus except which?
A. Extension of the wrist
B. Flexion of the elbow
C. Abduction of the shoulder joint
D. Metacarpophalangeal flexion and interphalangeal extension of the medial four fingers
E. Metacarpophalangeal flexion and interphalangeal extension of the thumb

52. The following statements regarding the sympathetic innervation of the upper limb are correct except which?
A. There are preganglionic nerve fibers originating in spinal cord segments T2 to 8.
B. It causes vasoconstriction of the arteries and veins of the skin.
C. There are preganglionic nerve fibers synapsing in the middle cervical, the inferior cervical, and the first thoracic ganglia.
D. Many of the postganglionic fibers are distributed within the branches of the brachial plexus.
E. The sympathetic nerves do not innervate the sweat glands.

53. During an automobile accident, a patient fractured the neck of her right radius and damaged a closely related nerve. At physical examination, the patient exhibited the following except which?
A. Weakness in extending the terminal phalanx of the thumb.
B. A loss of skin sensation on the lateral part of the dorsum of the hand.
C. An inability to extend the metacarpophalangeal joint of the index finger.
D. A normal ability to adduct the thumb at the carpometacarpal joint.
E. Normal skin sensation down the medial border of the hand.

54. Diminished sweating and increased warmth and vasodilation of the skin vessels over the hypothenar eminence as well as the ring and the little fingers could result from the following except which?
A. A lesion of the posterior cord of the brachial plexus.
B. Ulnar nerve damage behind the medial epicondyle of the humerus.
C. A lesion of the medial cord of the brachial plexus.
D. A lesion of the eighth cervical nerve.
E. Ulnar nerve damage over the front of the wrist.

55. The following statements concern the third cranial nerve nuclei:
(a) The oculomotor nucleus is situated lateral to the central gray matter.
(b) The sympathetic part of the oculomotor nucleus is called the Edinger-Westphal nucleus.
(c) The oculomotor nucleus lies posterior to the cerebral aqueduct.
(d) The nerve fibers from the oculomotor nucleus pass through the red nucleus.
(e) The oculomotor nucleus lies close to the lateral longitudinal fasciculus.

56. The following statements concern the visual areas of the cortex:
(a) The primary visual area is located in the walls of the parietooccipital sulcus.
(b) The visual cortex receives afferent fibers from the medial geniculate body.
(c) The right half of the visual field is represented in the visual cortex of the right cerebral hemisphere.
(d) The superior retinal quadrants pass to the inferior portion of the visual cortex.
(e) The secondary visual area (Brodmann areas 18 and 19) is surrounded by the primary visual area on the medial and lateral surfaces of the hemisphere.

57. The nuclei associated with the facial nerve include the following:
(a) Spinal nucleus
(b) Inferior salivatory nucleus
(c) Nucleus ambiguus
(d) Main sensory nucleus
(e) Lacrimal nucleus

58. The cerebral cortex is necessary for which of the following visual reflexes?
(a) Corneal reflex
(b) Accommodation reflex
(c) Consensual light reflex
(d) Pupillary light reflex
(e) Visual body reflex

59. The nasal field of the right eye is projected to the:
(a) left lateral geniculate body
(b) both banks of the left calcarine fissure
(c) left optic tract
(d) temporal retina of the right eye
(e) left optic radiation

60. Right pupillary constriction associated with light directed at the left eye requires the:
(a) right optic radiation.
(b) left optic nerve
(c) left Edinger-Westphal nucleus
(d) left oculomotor nerve
(e) right optic nerve

61. Select the lettered statement concerning the hypoglossal nerve that is correct:
(a) A lesion involving the hypoglossal nerve will result in deviation of the tongue toward the same side as the lesion when the tongue is protruded.
(b) The hypoglossal nerve conducts taste impulses from the posterior third of the tongue.
(c) The hypoglossal nerve emerges from the brainstem between the olive and the inferior cerebellar peduncle.
(d) The hypoglossal nerve carries with it fibers from the third and fourth cervical nerves.
(e) The fibers of the accessory nerve wind around the motor nucleus of

62.The following statements concern the autonomic nervous system:
(a) The enteric nervous system is made up of the submucous plexus of Meissner and the myenteric plexus of Auerbach.
(b) The nerve fibers of the enteric nervous system are naked axons.
(c) The activities of the parasympathetic part of the autonomic nervous system are used in an emergency.
(d) The parasympathetic part of the autonomic system contains only efferent nerve fibers.
(e) The pretectal nucleus is concerned with the auditory reflexes.

63. The sympathetic outflow:
(a) arises from nerve cells that are situated in the posterior gray column (horn) of the spinal cord
(b) has preganglionic nerve fibers that leave the spinal cord in the posterior roots of the spinal nerves.
(c) is restricted to the T1-L2 segments of the spinal cord
(d) receives descending fibers from supraspinal levels that pass
down the spinal cord in the posterior white column
(e) has many preganglionic nerve fibers that synapse in the posterior root ganglia of the spinal nerves

64. Norepinephrine is secreted at the endings of the:
(a) preganglionic sympathetic fibers
(b) preganglionic parasympathetic fibers
(c) postganglionic parasympathetic fibers
(d) postganglionic sympathetic fibers
(e) preganglionic fibers to the suprarenal medulla

65. The parasympathetic innervation controlling the parotid salivary gland arises from the:
(a) facial nerve.
(b) oculomotor nerve.
(c) vagus nerve
(d) carotid plexus
(e) glossopharyngeal nerve

66. Which of the following statements best describes the parasympathetic part of the autonomic nervous system?
(a) It is associated with the thoracolumbar part of the spinal cord.
(b) Effects are local and discrete due to preganglionic neurons synapsing with few postganglionic neurons.
(c) It has short preganglionic axons.
(d) It is active during an emotional crisis.
(e) Its activity mobilizes glucose from glycogen.

67. The parasympathetic outflow in the spinal cord occurs at levels:
(a) S1-2
(b) S3-5
(c) S1-3
(d) S2-4
(e) L1-2

68. The following statements concern the autonomic innervation of the heart:
(a) The parasympathetic part causes dilation of the coronary arteries.
(b) The postganglionic fibers do not terminate on the sinoatrial and atrioventricular nodes.
(c) The sympathetic postganglionic fibers liberate acetylcholine at their nerve endings.
(d) The sympathetic nerves cause cardiac acceleration and increased force of contraction of the heart.
(e) The neural control of dilatation of the coronary arteries is more important than the chemical control exerted by the products of cardiac muscle metabolism.

69. Matching Questions. Directions: Match the numbered glands with the most appropriate lettered autonomic ganglion listed below.
Each lettered option may be selected once, more than once, or not at all.

Submandibular gland
(a) Otic ganglion
(b) Submandibular ganglion
(c) Pterygopalatine ganglion
(d) Ciliary ganglion
(e) None of the above

Lacrimal gland
(a) Otic ganglion
(b) Submandibular ganglion
(c) Pterygopalatine ganglion
(d) Ciliary ganglion
(e) None of the above

Nasal glands
(a) Otic ganglion

(b) Submandibular ganglion
(c) Pterygopalatine ganglion
(d) Ciliary ganglion
(e) None of the above

Parotid gland
(a) Otic ganglion
(b) Submandibular ganglion
(c) Pterygopalatine ganglion
(d) Ciliary ganglion
(e) None of the above

Sublingual gland
(a) Otic ganglion
(b) Submandibular ganglion
(c) Pterygopalatine ganglion
(d) Ciliary ganglion
(e) None of the above

Ciliary ganglion
(a) Levator palpebrae superioris (smooth muscle only)
(b) Vermiform appendix
(c) Constrictor pupillae
(d) Descending colon
(e) None of the above

70. Match the numbered cranial nerves with the appropriate lettered nuclei listed below. Each lettered option may be selected once, more than once, or not at all.
Facial nerve
(a) Inferior salivatory nucleus
(b) Edinger-Westphal nucleus
(c) Lacrimatory nucleus
(d) None of the above

Oculomotor nerve
(a) Inferior salivatory nucleus
(b) Edinger-Westphal nucleus
(c) Lacrimatory nucleus
(d) None of the above

71. The levator palpebrae superioris muscle is innervated by the

(a) facial nerve.

(b) trochlear nerve.

(c) trigeminal nerve.

(d) oculomotor nerve.

(e) abducent nerve.

72. The inferior oblique muscle of the eye is innervated by the

(a) abducent nerve.

(b) trigeminal nerve.

(c) oculomotor nerve.

(d) facial nerve.

(e) trochlear.

73. The lateral rectus muscle of the eye is innervated by the

(a) optic nerve.

(b) trochlear nerve.

(c) oculomotor nerve.

(d) facial nerve.

(e) abducent nerve.

74. The superior oblique muscle of the eye is innervated by the

(a) trigeminal nerve.

(b) trochlear nerve.

(c) abducent nerve.

(d) chorda tympani nerve.

(e) oculomotor nerve.

75. The orbicularis oculi muscle is innervated by the

(a) facial nerve.

(b) lacrimal nerve.

(c) maxillary nerve.

(d) nasociliary nerve.

(e) frontal nerve.

76. The mandibular division of the trigeminal nerve leaves the skull through the

(a) superior orbital fissure.

(b) foramen rotundum.

(c) foramen ovale.

(d) jugular foramen.

(e) foramen magnum.

77. The vagus nerve leaves the skull through the

(a) jugular foramen.

(b) occipital foramen.

(c) inferior orbital fissure.

(d) foramen rotundum.

(e) foramen spinosum.

78. The abducent nerve leaves the skull through the

(a) foramen rotundum.

(b) jugular foramen.

(c) inferior orbital fissure.

(d) superior orbital fissure.

(e) foramen ovale.

79. The ophthalmic division of the trigeminal nerve leaves the skull through the

(a) inferior orbital fissure.

(b) foramen ovale.

(c) foramen rotundum.

(d) superior orbital fissure.

(e) pterygopalatine foramen.

80. The maxillary division of the trigeminal nerve leaves the skull through the

(a) foramen spinosum.

(b) foramen rotundum.

(c) superior orbital fissure.

(d) foramen ovale.

(e) jugular foramen.

81. The oculomotor nerve leaves the skull through the

(a) inferior orbital fissure.

(b) foramen rotundum.

(c) superior orbital fissure.

(d) foramen magnum.

(e) foramen ovale.

82. The optic canal is an opening in the

(a) lesser wing of the sphenoid bone.

(b) occipital bone.

(c) petrous part of the temporal bone.

(d) frontal bone.

(e) squamous part of the temporal bone.

83. The carotid canal is located in the

(a) frontal bone.

(b) occipital bone.

(c) petrous part of the temporal bone.

(d) greater wing of the sphenoid bone.

(e) parietal bone.

84. The foramen spinosum is located in the

(a) sphenoid bone.

(b) occipital bone.

(c) frontal bone.

(d) petrous part of the temporal bone.

(e) squamous part of the temporal bone.

85. The hypoglossal canal is located in the

(a) squamous part of the temporal bone.

(b) occipital bone.

(c) frontal bone.

(d) sphenoid bone.

(e) parietal bone.

86. The foramen rotundum is located in the

(a) lesser wing of the sphenoid bone.

(b) frontal bone.

(c) petrous part of the temporal bone.

(d) occipital bone.

(e) greater wing of the sphenoid bone.

87. The facial nerve canal is located in the

(a) temporal bone.

(b) greater wing of the sphenoid bone.

(c) occipital bone.

(d) mastoid process.

(e) lacrimal bone.

88. The foramen magnum is located in the

(a) sphenoid bone.

(b) temporal bone.

(c) parietal bone.

(d) frontal bone.

(e) occipital bone.

89. The genioglossus muscle _____ the tongue.

(a) retracts

(b) depresses

(c) elevates

(d) protrudes

(e) changes the shape of

90. The hyoglossus muscle

(a) changes the shape of the tongue.

(b) elevates the tongue.

(c) depresses the tongue.

(d) protrudes the tongue.

(e) retracts the tongue upward and backward.

91. The styloglossus muscle

(a) protrudes the tongue.

(b) depresses the tongue.

(c) retracts the tongue upward and backward.

(d) changes the shape of the tongue.

(e) elevates the tongue.

92. The palatoglossus muscle

(a) depresses the tongue.

(b) elevates the tongue.

(c) changes the shape of the tongue.

(d) retracts the tongue upward and backward.

(e) protrudes the tongue.

93. The following statements concerning the chorda tympani are correct except which?

(a) It contains parasympathetic postganglionic fibers.

(b) It contains special sensory (taste) fibers.

(c) It joins the lingual nerve in the infratemporal fossa.

(d) It is a branch of the facial nerve in the temporal bone.

(e) It carries secretomotor fibers to the submandibular and sublingual salivary glands.

94. The following statements concerning the head and neck are correct except which?

(a) The mastoid process of the temporal bone cannot be palpated in the newborn.

(b) The deep cervical lymph nodes are situated in the neck along a line that extends from the midpoint between the tip of the mastoid process and the angle of the mandible down to the sternoclavicular joint.

(c) The external jugular vein runs down the neck from the angle of the jaw to the middle of the clavicle.

(d) The parotid duct opens into the mouth opposite the upper second molar tooth.

(e) The anterior fontanelle can be palpated in a baby between the squamous part of the temporal bone, the parietal bone, and the greater wing of the sphenoid.

(f) The roots of the brachial plexus emerge into the posterior triangle on the neck between the scalenus anterior and scalenus medius muscles.

95. Assuming that the patient's eyesight is normal, in which cranial nerve is there likely to be a lesion when the direct and consensual light reflexes are absent?

(a) Trochlear nerve

(b) Optic nerve

(c) Abducent nerve

(d) Oculomotor nerve

(e) Trigeminal nerve

96. A patient is unable to taste a piece of sugar placed on the anterior part of the tongue. Which cranial nerve is likely to have a lesion?

(a) Hypoglossal

(b) Vagus

(c) Glossopharyngeal

(d) Facial

(e) Maxillary division of the trigeminal

97. On asking a patient to say â€œah,â€ the uvula is seen to be drawn upward to the right. Which cranial nerve is likely to be damaged?

(a) Left glossopharyngeal

(b) Right hypoglossal

(c) Left accessory (cranial part)

(d) Right vagus

(e) Right trigeminal

98. When testing the sensory innervation of the face, it is important to remember that the skin of the tip of the nose is supplied by which one of the following nerves?

(a) Zygomatic branch of the facial nerve

(b) Maxillary division of the trigeminal nerve

(c) Ophthalmic division of the trigeminal nerve

(d) External nasal branch of the facial nerve

(e) Buccal branch of the mandibular division of the trigeminal nerve

99.The cranial nerve nuclei listed below have the :following descending tracts terminating on them

(a) The inferior salivatory nucleus of the glossopharyngeal nerve receives descending tracts from .the thalamus

(b) The nucleus of the abducent nerve receives only .crossed corticobulbar tracts

(c) The nucleus of the facial nerve supplying the muscles of thelower part of the face receives only crossed corticobulbar tracts

(d) The trigeminal motor nucleus receives only uncrossed .corticobulbar tracts

(e) The nucleus of the trochlear nerve receives only .crossed corticobulbar tracts

100 .The nuclei associated with the facial nerve . :include the following

(a) Spinal nucleus

(b) Inferior salivatory nucleus

(c) Nucleus ambiguus

(d) Main sensory nucleus

(e) Lacrimal nucleus****

101)A patient with unilateral upper motor neuron paralysis of the facial muscles can smile with both sides of his face in response to a joke but not voluntarily. This can be explained by the following :facts

(a) The main corticobulbar fibers controlling voluntary .movement of the facial muscles have been preserved

(b) Reticular fibers, possibly originating in the hypothalamus and descending to the motor nuclei of the .facial nerves, are damage

.(c) The facial nerves are damaged

(d) The muscles producing mimetic movements of the face are innervated by corticobulbar fibers that have a course separate from the main corticobulbar fibers**

(e) There is a lesion involving the lower motor neurons

102)The cerebral cortex is necessary for which of . the following visual reflexes

(a) Corneal reflex

(b) Accommodation reflex****

(c) Consensual light reflex

(d) Pupillary light reflex

103)The nasal field of the right eye is projected to . :the

(a) left lateral geniculate body

(b) both banks of the left calcarine fissure

(c) left optic tract

(d) temporal retina of the right eye****

(e) left optic radiation

104)Right pupillary constriction associated with light directed at the left eye requires

.(a) right optic radiation

(b) left optic nerve****

(c) left Edinger-Westphal nucleus

(d) left oculomotor nerve

(e) right optic nerve

105)Select the lettered statement concerning the :hypoglossal nerve that is correct

(a) A lesion involving the hypoglossal nerve will result in deviation of the tongue toward the same side as the lesion when the tongueis protruded***

(b) The hypoglossal nerve conducts taste impulses from

.the posterior third of the tongue

(c) The hypoglossal nerve emerges from the brainstem .between the olive and the inferior cerebellar peduncle

(d) The hypoglossal nerve carries with it fibers from the .third and fourth cervical nerves

(e) The fibers of the accessory nerve wind around the motor nucleus of the hypoglossal nerve beneath the floor of the fourth ventricle

106)Select the lettered statement concerning the trigeminal nuclei that iscorrect

(a) The main sensory nucleus lies within the medulla .oblongata

(b) The spinal nucleus extends inferiorly as far as the .fifth cervical segment

(c) Proprioceptive impulses from the muscles of mastication reach the mesencephalic nucleus along fibers that are part of the unipolar neurons of the *******.nucleus

(d) The sensations of pain and temperature terminate in .the main sensory nucleus

(e) The trigeminal lemniscus contains only efferent

107)The cranial nerves listed below are associated . :with the following functions

(a) The spinal part of the accessory nerve shrugs the .shoulder****

.(b) The oculomotor nerve closes the eye

.(c) The trigeminal nerve is responsible for swallowing

(d) The facial nerve receives the sensation of taste from .the posterior two-thirds of the tongue

(e) The glossopharyngeal nerve receives the sensation of touch from the anterior third of the tongue

108)The following statements concern the cranial :nerves involved in the process of vision

(a) The nerve fibers of the optic nerve are surrounded by .Schwann cells

(b) The optic nerve is surrounded by an extension of the .subarachnoid space*****

(c) Internal ophthalmoplegia is a condition in which the oculomotor nerve supply to the dilator pupillae is lost, .but the innervation of the extraocular muscles is spared

(d) External ophthalmoplegia is a condition in which the oculomotor nerve supply to the extraocular muscles is spared, but the innervation of the sphincter pupillae and .the ciliary muscle is lost

(e) The optic nerve leaves the orbital cavity through the optic canal in the greater wing of the sphenoid bone

11)The following statements concern the cranial . nerves listed below

(a) The main sensory nucleus of the trigeminal nerve lies .in the brainstem medial to the motor nucleus

(b) Proprioceptive impulses from the facial muscles end .in the mesencephalic nucleus of the facial nerve

(c) The facial nerve leaves the posterior cranial fossa with the vestibulocochlear nerve by passing through the .stylomastoid foramen

(d) The superior salivatory nucleus of the facial nerve .innervates the parotid salivary gland

(e) The olfactory receptor cells are located in the mucous membrane of the nasal cavity above the level of the superior concha******

مش مهم

)A 64-year-old man visited his physician because he had noticed a swelling on the right side of his neck. He mentioned that he had suffered from a chronic cough .for 6 months and was rapidly losing weight

12)On physical examination, the following possible :signs emerged except

.(a) The right half of his tongue was wrinkled and wasted

(b) When he was asked to protrude his tongue, it turned .to the right

(c) The swelling on the right side of his neck was high up deep to the right sternocleidomastoid muscle and was .hard and fixed

(d) A chest radiograph revealed an advanced .bronchogenic carcinoma of the right lung

(e) The patient had no taste sensation on the anterior two- .thirds of the tongue on the right side*****

13)The physician made the following correct .

:conclusions except

(a) The patient had numerous lung metastases in the deep .cervical lymph nodes on the right side

(b) There was a lesion of the right hypoglossal nerve at some point between the nucleus in the medulla oblongata .and the tongue muscles supplied

(c) One of the metastases had invaded the right .hypoglossal nerve in the neck

(d) The loss of weight could be explained by the presence .of the advanced carcinoma in the lung

(e) The tongue was wrinkled because the mucous membrane was atrophied****

2)The following statements concern the autonomic :nervous system

(a) An Argyll Robertson pupil indicates that the accommodation reflex for near vision is normal but ******.that the light reflex is lost

(b) White rami communicantes are limited to the thoracic .part of the sympathetic trunk

(c) White rami communicantes contain postganglionic .sympathetic fibers

(d) The greater splanchnic nerves are formed of .nonmyelinated axons

(e) The lesser splanchnic nerves arise from the eighth and ninth ganglia of the thoracic part of the sympathetic .trunks

3)The following general statements concern the :autonomic nervous system

(a) The hypothalamus has little control over the .autonomic nervous system

(b) The cerebral cortex has no control over the autonomic .nervous system

(c) A patient with Adie tonic pupil syndrome has an increased light

reflex and a fast pupillary contraction to near vision and a .fast dilatation in the dark

(d) Pain arising in the gastrointestinal tract is referred to *****.the midline

(e) Visceral pain frequently is referred to skin areas that are innervated by different segments of the spinal cord as .the painful viscus

8)The following statements concern autonomic :innervation of the urinary bladder

(a) The parasympathetic part brings about relaxation of the bladder wall muscle and contraction of the sphincter .vesicae

(b) The sympathetic part in the male causes relaxation of the sphincter vesicae and does not prevent reflux of .semen into the bladder during ejaculation

(c) The afferent fibers from the bladder reach the spinal cord at the first and second lumbar segments and the second, third, and fourth sacral segments*****

(d) The sympathetic part causes contraction of the .sphincter urethrae

(e) The parasympathetic part innervates the blood vessels supplying the bladder wall

9)the following statements concern the autonomic :innervation of the heart

(a) The parasympathetic part causes dilation of the .coronary arteries

(b) The postganglionic fibers do not terminate on the .sinoatrial and atrioventricular nodes

(c) The sympathetic postganglionic fibers liberate .acetylcholine at their nerve endings

(d) The sympathetic nerves cause cardiac acceleration .and increased force of contraction of the heart******

(e) The neural control of dilatation of the coronary arteries is more important than the chemical control exerted by the products of cardiac muscle metabolism

7. The radial nerve gives off the following branches in the posterior compartment of the arm except which?

(a) Lateral head of the triceps

(b) Lower lateral cutaneous nerve of the arm

(c) Medial head of the triceps

(d) Brachioradialis

(e) Anconeus

8. All the following statements concerning the brachial plexus are correct except which?

(a) The roots C8 and T1 join to form the lower trunk.

(b) The cords are named according to their position relative to the first part of the axillary artery.

(c) The nerve that innervates the levator scapulae is a branch of the upper trunk.

(d) The roots, trunks, and divisions are not located in the axilla.

(e) No nerves originate as branches from the individual divisions of the brachial plexus.

14. Hyperextension of the proximal phalanges of the little and ring fingers (i.e., claw hand) can result from damage to the _____ nerve.

(a) ulnar

(b) axillary

(c) radial

(d) median

(e) anterior interosseous

15. Wrist drop can result from damage to the _____ nerve.

(a) median

(b) ulnar

(c) radial

(d) anterior interosseous

(e) axillary

16. An inability to oppose the thumb to the little finger can result from damage to the _____ nerve.

(a) anterior interosseous

(b) posterior interosseous

(c) radial

(d) ulnar

(e) median

17. The sensory innervation of the nail bed of the index finger is the

(a) median nerve.

(b) radial nerve.

(c) dorsal cutaneous branch of the ulnar nerve.

(d) superficial branch of the ulnar nerve.

(e) palmar cutaneous branch of the ulnar nerve.

18. The sensory innervation of the medial side of the palm is the

(a) radial nerve.

(b) palmar cutaneous branch of the ulnar nerve.

(c) dorsal cutaneous branch of the ulnar nerve.

(d) median nerve.

(e) superficial branch of the ulnar nerve.

19. The sensory innervation of the dorsal surface of the root of the thumb is the

(a) median nerve.

(b) radial nerve.

(c) superficial branch of the ulnar nerve.

(d) dorsal cutaneous branch of the ulnar nerve.

(e) posterior interosseous nerve.

20. The sensory innervation of the medial side of the palmar aspect of the ring finger is the

(a) radial nerve.

(b) posterior interosseous nerve.

(c) dorsal cutaneous branch of the ulnar nerve.

(d) median nerve.

(e) superficial branch of the ulnar nerve.

21. The musculocutaneous nerve originates from the _____ of the brachial plexus.

(a) posterior cord

(b) lateral cord

(c) both medial and lateral cords

(d) upper trunk

(e) medial cord

22. The suprascapular nerve originates from the _____ of the brachial plexus.

(a) medial cord

(b) lower trunk

(c) posterior cord

(d) lateral cord

(e) upper trunk

23. The median nerve originates from the _____ of the brachial plexus.

(a) medial and lateral cords

(b) medial cord

(c) posterior cord

(d) upper and lower trunk

(e) lateral cord

24. The thoracodorsal nerve originates from the _____ of the brachial plexus.

(a) lateral cord

(b) posterior cord

(c) medial cord

(d) medial and posterior cords

(e) lower trunk

25. The axillary nerve originates from the _____ of the brachial plexus.

(a) posterior cord

(b) middle trunk

(c) lateral cord

(d) lower trunk

(e) medial cord

27. The medial collateral ligament of the elbow joint is closely related to the

(a) brachial artery

(b) radial nerve

(c) ulnar nerve

(d) basilic vein

(e) ulnar artery

Which of the following nerves innervates at least one muscle that acts on both the hip and knee joints?

(a) Ilioinguinal nerve

(b) Femoral nerve

(c) Saphenous nerve

(d) Common peroneal nerve

(e) Superficial peroneal nerve

Completion Questions

Select the phrase that BEST completes each statement.

1. The mandibular division of the trigeminal nerve leaves the skull through the
   A. superior orbital fissure.
   B. foramen rotundum.
   C. foramen ovale.
   D. jugular foramen.
   E. foramen magnum.

2. The vagus nerve leaves the skull through the
   A. jugular foramen.
   B. occipital foramen.
   C. inferior orbital fissure.
   D. foramen rotundum.
   E. foramen spinosum.

3. The abducent nerve leaves the skull through the
   A. foramen rotundum.
   B. jugular foramen.
   C. inferior orbital fissure.
   D. superior orbital fissure.
   E. foramen ovale.

4. The ophthalmic division of the trigeminal nerve leaves the skull through the
   A. inferior orbital fissure.
   B. foramen ovale.
   C. foramen rotundum.
   D. superior orbital fissure.
   E. pterygopalatine foramen.

5. The maxillary division of the trigeminal nerve leaves the skull through the
   A. foramen spinosum.
   B. foramen rotundum.
   C. superior orbital fissure.
   D. foramen ovale.
   E. jugular foramen.

6. The oculomotor nerve leaves the skull through the
   A. inferior orbital fissure.
   B. foramen rotundum.
   C. superior orbital fissure.
   D. foramen magnum.
   E. foramen ovale.

7. The facial nerve canal is located in the
   A. temporal bone.
   B. greater wing of the sphenoid bone.
   C. occipital bone.
   D. mastoid process.
   E. lacrimal bone.

8. The vagus nerve supplies the gastrointestinal tract down as far as the
   A. pylorus of the stomach.
   B. duodenojejunal junction.
   C. ileocolic junction.
   D. hepatic flexure of the colon.
   E. splenic flexure of the colon.

9. The facial nerve supplies all the muscles of face including the
   A. masseter.
   B. buccinator.
   C. lateral pterygoid.
   D. temporalis.
   E. medial pterygoid.

Multiple Choice Questions

Select the BEST answer for each question.

10. The following statements concerning the chorda tympani are correct **except** which?
    A. It contains parasympathetic postganglionic fibers.
    B. *It contains special sensory* (taste) fibers.
    C. It joins the lingual nerve in the infratemporal fossa.
    D. It is a branch of the facial nerve in the temporal bone.
    E. It carries secretomotor fibers to the submandibular and sublingual salivary glands.

11. Assuming that the patient's eyesight is normal, in which cranial nerve is there likely to be a lesion when the direct and consensual light reflexes are absent?
    A. Trochlear nerve
    B. Optic nerve
    C. Abducent nerve
    D. Oculomotor nerve
    E. Trigeminal nerve ★

12. A patient is unable to taste a piece of sugar placed on the anterior part of the tongue. Which cranial nerve is likely to have a lesion?
    A. Hypoglossal
    B. Vagus
    C. Glossopharyngeal
    D. Facial ★
    E. Maxillary division of the trigeminal

13. On asking a patient to say "ah," the uvula is seen to be drawn upward to the right. Which cranial nerve is likely to be damaged?
    A. Left glossopharyngeal
    B. Right hypoglossal
    C. Left accessory (cranial part) ★
    D. Right vagus
    E. Right trigeminal

14. The following statements concerning the optic nerve are correct **except** which?
    A. The axons arise from the ganglionic layer of the retina.
    B. At the optic chiasma, the fibers from the lateral half of each retina cross the midline and enter the optic tract of the opposite side. ★
    C. The optic nerve leaves the orbital cavity through the optic canal.
    D. The optic nerve is surrounded by the three meninges and an extension of the subarachnoid space into the orbital cavity.
    E. The optic nerve is made up of myelinated axons.

15. When testing the sensory innervation of the face, it is important to remember that the skin of the tip of the nose is supplied by one of the following nerves.
    A. Zygomatic branch of the facial nerve
    B. Maxillary division of the trigeminal nerve
    C. Ophthalmic division of the trigeminal nerve ★
    D. External nasal branch of the facial nerve
    E. Buccal branch of the mandibular division of the trigeminal nerve

16. Compression of the facial nerve in the facial canal in the posterior wall of the middle ear could result in all of the following **except** which?
    A. Cessation of lacrimal secretion. ★
    B. Paralysis of the posterior belly of the digastric muscle.
    C. Inability to whistle.
    D. Decreased saliva in the mouth.
    E. Loss of taste sensation in the anterior two thirds of the tongue.

17. The following statements concerning the function of the oculomotor nerve are correct **except** which?
    A. It accommodates the eye.
    B. It raises the upper eyelid.
    C. It innervates the lateral rectus muscle and thus turns the eye laterally. ★
    D. It turns the eye downward.
    E. It constricts the pupil.

18. The following statements concerning a lesion of the trigeminal nerve are correct **except** which?
    A. The masseter muscle cannot be felt to contract.
    B. There is loss of skin sensation over the angle of the jaw. ★
    C. The cornea and conjunctiva are insensitive to touch.
    D. The temporalis muscle cannot be felt to contract.
    E. There is loss of skin sensation over the cheek.

19. The following statements concerning a lesion of the spinal part of the accessory nerve are correct **except** which?
    A. It arises from the first three cervical segments of the spinal cord. ★
    B. It enters the skull through the foramen magnum.
    C. It joins the cranial part of the accessory nerve in the posterior cranial fossa.
    D. It supplies the sternocleidomastoid and trapezius muscles.
    E. It can be injured in the posterior triangle of the neck.

20. The following statements concerning the hypoglossal nerve are correct **except** which?
    A. It supplies all the intrinsic muscles of the tongue.
    B. In lesions of the nerve, the tip of the tongue deviates to the same side when the tongue is protruded from the mouth.
    C. It supplies the palatoglossus muscle. ★
    D. It leaves the anterior surface of the brain between the pyramid and the olive.
    E. It supplies the styloglossus and the hyoglossus muscles.

Fill in the Blank

Fill in the blank with the BEST answer.

1. The phrenic nerve arises from _____.
   A. C1, 2, and 3 spinal nerves.
   B. C8, T1, T2, and T3 spinal nerves.
   C. C3, 4, and 5 posterior rami of the spinal nerves.
   D. C5, 6, and 7 spinal nerves.
   E. C3, 4, and 5 anterior rami of the spinal nerves.

2. The motor nerve fibers of the phrenic nerve supply the _____.
   A. scalenus anterior muscle
   B. diaphragm
   C. prevertebral muscles
   D. intercostal muscles
   E. rectus abdominis muscle

3. The supraclavicular nerves arise from the _____.
   A. brachial plexus
   B. C5 and 6 spinal nerves
   C. C3 and 4 spinal nerves
   D. C7 and 8 spinal nerves
   E. C8 and T1 spinal nerves

4. The supraclavicular nerves supply the _____.
   A. supraspinatus muscle
   B. deltoid muscle
   C. subclavius muscle
   D. skin over the shoulder
   E. skin over the lower half of the deltoid muscle

5. The cervical plexus emerges into the neck between the _____.
   A. scalenus anterior and the scalenus medius muscles
   B. scalenus medius and the scalenus posterior muscles
   C. posterior belly of the digastric and the sternocleidomastoid muscles
   D. levator scapulae and the scalenus anterior muscles
   E. trapezius and the levator scapulae muscles

6. An inability to oppose the thumb to the little finger can result from damage to the _____ nerve.
   A. anterior interosseous
   B. posterior interosseous
   C. radial
   D. ulnar
   E. median

7. The sensory innervation of the nail bed of the index finger is the _____.
   A. median nerve
   B. radial nerve
   C. dorsal cutaneous branch of the ulnar nerve
   D. superficial branch of the ulnar nerve
   E. palmar cutaneous branch of the ulnar nerve

8. The sensory innervation of the medial side of the palm is the _____.
   A. radial nerve
   B. palmar cutaneous branch of the ulnar nerve
   C. dorsal cutaneous branch of the ulnar nerve
   D. median nerve
   E. superficial branch of the ulnar nerve

9. The sensory innervation of the dorsal surface of the root of the thumb is the _____.
   A. median nerve
   B. radial nerve
   C. superficial branch of the ulnar nerve
   D. dorsal cutaneous branch of the ulnar nerve
   E. posterior interosseous nerve

10. The sensory innervation of the medial side of the palmar aspect of the ring finger is the _____.
    A. radial nerve
    B. posterior interosseous nerve
    C. dorsal cutaneous branch of the ulnar nerve
    D. median nerve
    E. superficial branch of the ulnar nerve

11. The musculocutaneous nerve originates from the _____ of the brachial plexus.
    A. posterior cord
    B. lateral cord
    C. both medial and lateral cords
    D. upper trunk
    E. medial cord

12. The suprascapular nerve originates from the _____ of the brachial plexus.
    A. medial cord
    B. lower trunk
    C. posterior cord
    D. lateral cord
    E. upper trunk

13. The median nerve originates from the _____ of the brachial plexus.
    A. both medial and lateral cords
    B. medial cord
    C. posterior cord
    D. upper and lower trunk
    E. lateral cord

14. The thoracodorsal nerve originates from the _____ of the brachial plexus.
    A. lateral cord
    B. posterior cord
    C. medial cord
    D. medial and posterior cords
    E. lower trunk

15. The axillary nerve originates from the _____ of the brachial plexus.
    A. posterior cord
    B. middle trunk
    C. lateral cord
    D. lower trunk
    E. medial cord

Multiple Choice Questions

Select the BEST answer for each question.

16. All the following statements concerning the brachial plexus are correct **except** which?
    A. The roots C8 and T1 join to form the lower trunk.
    B. The cords are named according to their position relative to the first part of the axillary artery.
    C. The nerve that innervates the levator scapulae is a branch of the upper trunk.
    D. The roots, trunks, and divisions are not located in the axilla.
    E. No nerves originate as branches from the individual divisions of the brachial plexus.

17. The radial nerve gives off the following branches in the posterior compartment of the arm **except** which?
    A. Lateral head of the triceps
    B. Lower lateral cutaneous nerve of the arm
    C. Medial head of the triceps
    D. Brachioradialis
    E. Anconeus

18. The following statements concerning structures in the intercostal space are correct **except** which?
    A. The anterior intercostal arteries of the upper six intercostal spaces are branches of the internal thoracic artery.
    B. The intercostal nerves travel forward in an intercostal space between the internal intercostal and innermost intercostal muscles.
    C. The intercostal blood vessels and nerves are positioned in the order of vein, nerve, and artery from superior to inferior in a subcostal groove.
    D. The lower five intercostal nerves supply sensory innervation to the skin of the lateral thoracic and anterior abdominal walls.
    E. The posterior intercostal veins drain backward into the azygos and hemiazygos veins.

24. The following structures receive innervation from branches of the pudendal nerve **except** which?
    A. Labia minora
    B. Urethral sphincter
    C. The posterior fornix of the vagina
    D. Ischiocavernosus muscles
    E. Skin of the penis or clitoris

A 30-year-old man was seen in the emergency department with a stab wound in the right inguinal region.

19. Which of the following nerves supplies the skin of the inguinal region?
    A. The eleventh thoracic nerve
    B. The tenth thoracic nerve
    C. The twelfth thoracic nerve
    D. The first lumbar nerve
    E. The femoral nerve

20. Which of the following nerves innervates at least one muscle that acts on both the hip and knee joints?
    A. Ilioinguinal nerve
    B. Femoral nerve
    C. Saphenous nerve
    D. Common peroneal nerve
    E. Superficial peroneal nerve

21. The following statements concerning the lumbar plexus are correct **except** which?
    A. The plexus lies within the psoas muscle.
    B. The plexus is formed from the posterior rami of the upper four lumbar nerves.
    C. The femoral nerve emerges from the lateral border of the psoas muscle.
    D. The obturator nerve emerges from the medial border of the psoas muscle.
    E. The iliohypogastric nerve emerges from the lateral border of the psoas muscle.

22. The following statements concerning the nerves of the pelvic cavity are correct **except** which?
    A. The inferior hypogastric plexus contains both sympathetic and parasympathetic nerves.
    B. The sacral plexus lies behind the rectum.
    C. The pelvic part of the sympathetic trunk possesses both white and gray rami communicantes.
    D. The superior hypogastric plexus is formed from the aortic sympathetic plexus and branches of the lumbar sympathetic ganglia.
    E. The anterior rami of the upper four sacral nerves emerge into the pelvis through the anterior sacral foramina.

23. The statements concerning the segmental origin of the following nerves are correct **except** which?
    A. The sciatic nerve is derived from the segments L4 and 5; S1, 2, and 3.
    B. The pudendal nerve is derived from the segments L3, 4, and 5.
    C. The pelvic splanchnic nerve is derived from the segments S2, 3, and 4.
    D. The obturator nerve is derived from the segments L2, 3, and 4.
    E. The lumbosacral trunk is derived from the segments L4 and 5.

25. The statements concerning the motor nerve supply of the muscles of the pelvic walls are correct **except** which?
    A. The sacral nerves or plexus supply the obturator internus muscle.
    B. The obturator nerve supplies the piriformis muscle.
    C. The sacral nerves, or plexus, supply the iliococcygeus muscle.
    D. The sacral nerves, or plexus, supply the coccygeus muscle.
    E. The perineal branch of the fourth sacral nerve and the perineal branch of the pudendal nerve supply the levator ani muscle.

Completion Questions

Select the phrase that BEST completes each statement.

1. The levator palpebrae superioris muscle is innervated by the
   A. facial nerve.
   B. trochlear nerve.
   C. trigeminal nerve.
   D. oculomotor nerve. ★
   E. abducent nerve.

2. The inferior oblique muscle of the eye is innervated by the
   A. abducent nerve.
   B. trigeminal nerve.
   C. oculomotor nerve. ★
   D. facial nerve.
   E. trochlear nerve.

3. The lateral rectus muscle of the eye is innervated by the
   A. optic nerve.
   B. trochlear nerve.
   C. oculomotor nerve.
   D. facial nerve.
   E. abducent nerve. ★

4. The superior oblique muscle of the eye is innervated by the
   A. trigeminal nerve.
   B. trochlear nerve. ★
   C. abducent nerve.
   D. chorda tympani nerve.
   E. oculomotor nerve.

5. The orbicularis oculi muscle is innervated by the
   A. facial nerve ★
   B. lacrimal nerve.
   C. maxillary nerve.
   D. nasociliary nerve.
   E. frontal nerve.

6. The optic canal is an opening in the
   A. lesser wing of the sphenoid bone ★
   B. occipital bone.
   C. petrous part of the temporal bone.
   D. frontal bone.
   E. squamous part of the temporal bone.

7. The internal acoustic meatus in the skull
   A. is located in the body of the sphenoid bone.
   B. is located in the mastoid bone.
   C. allows passage of the glossopharyngeal nerve.
   D. allows passage of the vestibulocochlear nerve only.
   E. allows passage of the facial nerve and the vestibulocochlear nerve. ★

Multiple Choice Questions

Select the BEST answer for each question.

8. The muscles and nerves that are responsible for adducting the eyeball (rotating the cornea medially) include the following **except** which?
   A. The superior rectus
   B. The medial rectus muscle
   C. The oculomotor nerve
   D. The inferior oblique muscle ★
   E. The inferior rectus muscle

9. Infection of the middle ear can spread along all the following pathways **except** which?
   A. Through the tegmen tympani to the middle cranial fossa
   B. Through the medial wall into the labyrinth
   C. Through the canal for the tensor tympani muscle into the internal carotid artery ★
   D. Through the floor into the internal jugular vein
   E. Through the aditus to the mastoid antrum into the mastoid air cells

10. The following general statements concerning the tympanic membrane are correct **except** which?
    A. It is pearly gray in color.
    B. It is concave laterally.
    C. It is crossed by the chorda tympani over the medial surface of the inferior part of the membrane. ★
    D. It is best visualized in the adult by pulling the auricle upward and backward.
    E. The inner surface is covered with mucous membrane.

11. The following statements concerning the chorda tympani are correct **except** which?
    A. It contains parasympathetic postganglionic fibers. ★
    B. It contains special sensory (taste) fibers.
    C. It joins the lingual nerve in the infratemporal fossa.
    D. It is a branch of the facial nerve in the temporal bone.
    E. It carries secretomotor fibers to the submandibular and sublingual salivary glands.

12. Assuming that the patient's eyesight is normal, in which cranial nerve is there likely to be a lesion when the direct and consensual light reflexes are absent?
    A. Trochlear nerve
    B. Optic nerve
    C. Abducent nerve
    D. Oculomotor nerve ★
    E. Trigeminal nerve