A & P II
Practice Test I

1. Name the two (2) separate layers the dura mater forms in the cranium.
   a. (most superficial):
   b. (deepest):

2. There are three (3) types of tracts of the central nervous system, which of the three tracts connects the right and left components of the CNS?
   a. anterior
   b. commissural
   c. association
   d. meningeal

3. The central nervous system (CNS) consists of which of the following groups?
   a. cranial and spinal nerves
   b. somatic and autonomic nervous systems
   c. telencephalon and cerebral cortex
   d. brain and spinal cord

4. There are_____pairs of spinal nerves.

5. Matching:

____a. meninges	1. shallow grooves on brain surface.
____b. cauda equina	2. group of myelinated nerve fibers.
____c. fissure	3. horse's tail
____d. falx cerebri	4. wall-like separation
____e. sulci	5. bundle of nerve fibers in CNS.
____f. white matter	6. membranes that cover brain and spinal cord.
____g. tracts	7. septum separation cerebral hemispheres.
____h. ganglia	8. deep groove or furrow on the brain.
____i. septa	9. group of neuron cell bodies in PNS.

6. The three (3) types of nerves are_____,_____, and _____.

7. Define Reflex:

8. Which of the following is the name for the outer 1/4" layer of gray matter?
   a. external capsule
   b. cerebral cortex
   c. basal ganglia
   d. motor control area

9. Where do the pyramids decussate?
   a. pyramidal center
   b. cerebellum
   c. medulla
   d. cerebrum

10. The_____travels through the mid-brain and is a way for the CSF to flow from the third to the fourth ventricle.

11. Name the cells that help form choroid plexuses._____

12. List the three parts of the brain stem from the cranial to the caudal.
   a.
   b.
   c.

13. Another name for the mid-brain is_____.

14. Which layer of the dura mater will form the septa? _____

15. Which of the following is the name for a group of neuron cell bodies in the PNS?
   a. association tracts
   b. nucleus
   c. arachnoid
   d. ganglia

16. Answer true or false. If the answer is false, cross out the underlined word or phrase that makes the statement false and **write in the correct word or phrase** that makes the statement true.

   a.____The spinal cord is continuous with the brain stem.
   b.____The cerebrum is also known as the mesencephalon.
   c.____The cerebrum is divided into right and left hemispheres by the central sulcus.
   d.____Spinal nerves are formed by the union of 2 roots, the ventral and the dorsal.
   e.____Few spinal nerves are mixed nerves.
   f.____Cell bodies of autonomic motor neurons are found in the anterior gray horns.
   g.____Lateral gray horns are most well developed in the cervical region.

17. The name for the mass of descending lumbar and sacral nerve roots at the end of the spinal cord is:
    a. cauda equina
    b. conus medullaris
    c. cervical enlargement
    d. lumbar spinal roots

18. List two functions of the spinal cord.
    a.

    b.

19. The_____separates the cerebrum from the cerebellum.

20. Which area of the cerebrum initiates all voluntary movements?
    a. Precentral gyrus of the primary motor area
    b. basal ganglia
    c. association tracts
    d. olfactory tracts

21. _____are the narrow, oval openings from each lateral ventricle into the third ventricle.

22. Name the mass of specialized capillaries that are surrounded by ependymal cells.

23. What endocrine organ is the main link between the nervous and endocrine systems?

24. The_____provides the primary connection between the cerebellum and other parts of the CNS.

25. Which of the meninges is the innermost?

26. List the twelve (12) cranial nerves in order (include function: sensory, motor, or both)
    a.
    b.
    c.
    d.
    e.
    f.
    g.
    h.
    i.
    j.
    k.
    l.

27. The somatic branch of the oculomotor nerve provides somatic motor impulses to which muscles?

28. Which of the cranial nerves innervates the muscles of mastication?

29. The spinal cord terminates:
    a. between vertebrae L1 and L2.
    b. at the cervical enlargement.
    c. approximately 42-45 cm below level of foramen magnum.
    d. between S1 and S5.
    e. both A and C.

30. The_____is the area between the arachnoid and pia mater.

31. The mammillary body is a relay station for_____.

32. Name the thin membrane (stretched between the corpus collosum and fornix) that separates the two lateral ventricles.

33. What serves as the primary relay station for all sensory impulses, except smell?

34. The four (4) bulging structures on the dorsal surface of the mid-brain are called the_____. The two (2) upper bulges are named_____, and are the reflex center for_____. The two inferior bulges are called the_____and function in_____.

35. Which of the ascending spinal tracts conveys pain and temperature?

36. Which of the following is the largest cranial nerve and the most important sensory nerves of the face?
    a. vestibulocochlear
    b. abducens
    c. vagus
    d. trigeminal

37. Spinal nerves are formed from the junction of the ventral and dorsal root. Once outside the vertebral column there are two (2) major branches. Name them. Which is larger?
    a.
    b.

38. Which plexus is formed from spinal lumbar nerves L1 - L4?

39. The_____is the name given a group of neuron cell bodies within the CNS.

40. Nerves that branch from the cervical enlargement supply:
    a. The sacral region
    b. The lower extremities
    c. The lumbar region
    d. Upper extremities
    e. None of the above

41. Which of the following is the name of the primary commissure connecting the right and left hemispheres of the cerebrum?
    a. Corpus collosum
    b. Central sulcus
    c. Lateral fissure
    d. Conus medullaris

42. What is the name of the fluid that fills the ventricles of the brain?
    a. Cerebral blood
    b. Ependymal fluid
    c. Venous blood
    d. Cerebrospinal fluid

43. The_____ center in the medulla controls heart rate and strength of contraction.

44. Which of the following cranial nerves are capable of mitosis?
    a. Optic
    b. Vagus
    c. Hypoglossal
    d. Olfactory
    e. All of the above

45. Which of the following is the plexus that branches to supply the diaphragm?
    a. Cervical
    b. Brachial
    c. Sacral
    d. Radial

46. The obturator nerve innervates_____and_____.

47. The dorsal root ganglia contains cell bodies of:
    a. Motor neurons
    b. 1st order sensory neurons
    c. 2nd order sensory neurons
    d. Both A and C

48. Define Pyramids:

49. Name the stalk that connects the hypothalmus to the pituitary.

50. List at least two places that the optic nerve fibers will go, other than to the thalamus.
    a.
    b.

51. List the five (5) major nerves formed by the brachial plexuses, and what each innervates.
    a.
    b.
    c.
    d.
    e.

52. The tracts in the CNS are composed of bundles of_____.

53. The_____nerve is the largest nerve in the body.

54. Which neuron in the sensory impulse pathway has its cell body in a posterior gray horn?

55. The lumbar enlargement is found in the region of which vertebrae?
    a. C4 - T
    b. T9 - T12
    c. L1 - L2
    d. S1 - S5

56. The trigeminal has three (3) major sensory branches. List these three.
    a.
    b.
    c.

57. List the three openings from the fourth ventricle to the subarachnoid space.
    a.
    b.
    c.

58. There are two (2) kinds of connections between the ventral ramus and the chain ganglia. Which one is formed **only** on the thoracic and upper lumbar segments (T1-L2).
    a. Ganglionic
    b. Gray ramus communicans
    c. White ramus communicans
    d. Dorsal

59. List the five components of a reflex arc.
    a.
    b.
    c.
    d.
    e.

60. Which one of the following is **incorrect.**
    a. There are seven pairs of cervical spinal nerves
    b. There are twelve pairs of thoracic spinal nerves
    c. There are five pairs of lumbar spinal nerves
    d. There are five pairs of sacral spinal nerves
    e. All are correct

61. What is meant by the term "cholinergic"?

62. The name for the small pit in the middle of the macula lutea is:
    a. Fovea Centralis
    b. Optic disc
    c. Caruncle
    d. Luteal Disc

63. The fibrous tunic is composed of_____.

64. Which of the middle ear ossicles is attached to the tympanic membrane?

65. Name the fluid found within the membranous labyrinth.

66. Name the stones of calcium carbonate that add weight to the gelatenous mass within the utricle and saccule:

67. Which one of the following is **not** a function of the sympathetic division of the ANS?
    a. Blood vessels associated with skin and most abdominal viscera dilate
    b. Heart rate accelerates
    c. Pupils dilate
    d. Bronchioles dilate
    e. All of the above are functions of the sympathetic division of the ans

68. Which of the following is the name of the structure composed of dense fibrous tissue that maintains the shape of the eyelid.
    a. Caruncle
    b. Conjuntiva
    c. Tarsal plate
    d. Meibomian ledge

69. The muscle whose contraction turns the eye upward and laterally is the_____.

70. Where would you locate receptors that are associated with **static** equilibrium?
    a. Semicircular ducts
    b. Cochlear ducts
    c. Semicircular receptacles
    d. Utricle and saccule

71. What is meant by the term "adrenergic"?

72. Which of the following is **not** a function of the ciliary body?
    a. Secretes aqueous humor
    b. Suspends lens of the eye
    c. Adjusts shape of the lens
    d. All of the above are functions of the ciliary body

73. Which one of the following structures is **not** cholinergic?
    a. Parasympathetic preganglionic fibers
    b. Parasympathethic postganglionic fibers
    c. Sympathetic preganglionic fibers
    d. All of the above are cholinergic

74. Which of the following is a **false** statement pertaining to the rods?
    a. Used to see general outlines
    b. Used for color vision
    c. Used for vision in dim light
    d. Very limited use in bright light
    e. All of the above are true statements

75. Upon entering chain ganglia, preganglionic sympathetic neurons may take several paths. Which one of the following is **not** one of those paths?
    a. They may travel up or down within the chain ganglia
    b. They may synapse with the cell bodies of postganglionic neurons in the chain ganglion located at the same level.
    c. They may pass through the chain ganglia to synapse at a collateral ganglion.
    e. All of the above are correct

76. The person who said "Don't shoot 'til you see the whites of their eyes" was speaking of the:
    a. Cornea
    b. Conjunctiva
    c. Sclera
    d. Iris

77. What is the name of the modified sebaceous glands that produce "ear wax"?

78. Name the 3 auditory ossicles in the middle ear in the order in which vibrations would be transmitted.
    a.
    b.
    c.

79. The fibrous tunic consists of two parts. Choose the correct pair.
    a. Sclera and choroid
    b. Cornea and conjunctiva
    c. Choroid and iris
    d. Sclera and Cornea
    e. Retina and sclera

80. Name the 2 components of rhodopsin.
    a.
    b.

81. Which of the 3 tunics of the eye contains the rods and the cones?

82. What is the function of aqueous humor?

83. Cones in humans contain 3 different kinds of chemical pigments that break down when struck by a certain wavelength or color of light. Which of the following correctly lists these colors?
    a. Red, yellow, green
    b. Green, blue, yellow
    c. Yellow, orange, blue
    d. Red, blue, green

84. The posterior cavity of the eye contains:
    a. Vitreous humor
    b. Aqueous Humor
    c. Conjuntivious humor
    d. Scleroaqueous fluid

85. The posterior and anterior cavities are separated by the_____. The chambers of the anterior cavity are divided by the_____.

86. The structure(s) that hold(s) the lens in place is(are) called the:
    a. Ciliary body
    b. Coroid coat
    c. Suspensory ligaments
    d. Ciliary ligaments

ESSAYS

1. Describe the flow of lacrimal fluid (tears) from its production to the nasal cavity (5 terms).

2. Describe the structures through which sound waves travel starting with the external ear and ending with the round window. Be sure to list them in the correct order!

3. Discuss in detail, the pathways a sensory nerve impulse will travel from a receptor to the brain, and then the motor nerve impulse to the effector organ/muscle

4. Describe the flow of CSF from secretion to reabsorption. Be sure to list all ventricles, foramina, etc.

5. Describe the structures making up the Organ of Corti. Be sure to list exact location and function.

6. List the meningeal layers of the brain. How does the covering change in the area around the vertebrae?

7. Describe the 3 types of tracts found in the CNS. What exactly is a tract?

8. Autonomic nervous system: Discuss the differences between the parasympathetic and sympathetic systems. Include descriptions of pre-and post-ganglionic fibers: origins, synapses, and ganglia involved.

9. Describe the alternate paths a preganglionic sympathetic nerve fiber may take to leave the sympathetic chain ganglia.

A & P II Practice Test 1

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1. a. Periostial dura b. Meningeal dura

2. b

3. d

4. 31

5. a. 6
   b. 3
   c. 8
   d. 7
   e. 1
   f. 2
   g. 5
   h. 9
   i. 4

6. Sensory, motor, mixed

7. Reflex: an action performed automatically in response to a stimulus without conscious thought or decision.

8. b

9. c

10. Cerebral aqueduct OR aqueduct of Sylvius

11. Ependymal cells

12. a. mid-brain
    b. pons
    c. medulla

13. Mesencephalon

14. Meningeal dura

15. d

16. a. T
    b. F--<u>The mid-brain</u>
    c. F--<u>Longitudinal fissure</u>
    d. T
    e. F--<u>All</u>
    f. F--<u>Lateral</u>
    g. F--<u>Thoracic and upper lumbar</u>

17. a

18. a. Serve as a conduction pathway for impulses traveling to and from the brain and the rest of the body

19. Transverse fissure

20. a

21. Foramen of Monro OR interventricular foramen

22. Choroid plexuses

23. Hypothalamus

24. Pons

25. Pia mater

26.
a. I Olfactory--sensory
b. II Optic--sensory
c. III Oculomotor--motor
d. IV Trochlear--motor
e. V Trigeminal--mixed
f. VI Abducens--motor
g. VII Facial--mixed
h. VIII Vestibulocochlear--sensory
i. IX Glossopharyngeal--mixed
j. X Vagus--mixed
k. XI Spinal Accessory--motor
l. XII Hypoglossal--motor

27. Innervates 4 of the 6 extrinsic eye muscles and the levator palpebrae superioris

28. Cranial nerve #V--Trigeminal Nerve

29. e

30. Subarachnoid space

31. Smell (olfactory impulses)

32. Septum pellucidum

33. Thalamus

34. Corpora quadrigemina, superior colliculi, visual tracking

35. Lateral spinothalamic tract (lateral white column)

36. d

37. a. Dorsal ramus - smaller b. Ventral ramus - larger

38. Lumbar plexus

39. Nucleus

40. d

41. a

42. d

43. Cardiac

44. d

45. a

46. Adductors, gracilis

47. b

48. Pyramids: nerve fibers (tracts) that originate in the pre-central gyrus, primary motor area, pyramidal system

49. Infundibulum

50. a. Pineal gland b. Superior colliculi (Cranial Nerves III, IV, and VI)

51. a. Musculocutaneous - anterior arm muscles, skin on anteriolateral forearm
    b. Ulna - some anteriomedial muscles and skin and most palmar muscles
    c. Median - most anterial forearm muscles (flexors & pronators)
    d. Axillary - skin of shoulder & deltoid and teres minor muscles
    e. Radial - posterior arm and posterior forearm (extensors & supinators)

52. Myelinated nerve fibers

53. Sciatic

54. Second order sensory neurons

55. b

56. a. Opthalmic b. Maxillary c. Mandibular

57. a. Foramina of Lushka -- lateral
    b. Foramina of Lushka -- lateral
    c. Foramen of Magendie --medial

58. c

59. a. Receptor
    b. Sensory neuron
    c. Synapse
    d. Motor neuron
    e. Effector

60. a

61. Nerve fibers that release acetylcholine --bind Ach, cholinergic inhibitors inhibit the action of Ach

62. a

63. Collagen - fibrous connective tissue

64. Malleus

65. Endolymph

66. Otoliths

67. a

68. c

69. Inferior oblique

70. d

71. Nerve fibers that release norepinephrine

72. d

73. d

74. b

75. d

76. c

77. Ceruminous glands

78. a. Malleus b. Incus c. Stapes

79. d

80. a. Scotopsin b. Retinal

81. Nervous tunic (retina)

82. Nouris the cornea

83. d

84. a

85. Lens, iris

86. c