A & P I
PRACTICE TEST 4

1. Which one of the following is incorrect regarding the mucous membranes of the nasal cavity?
   A. They have stratified squamous epithelium
   B. They have extensive blood supply
   C. They moisten the air passing over them
   D. They become inflamed due to infections such as colds

2. The roof of the nasal cavity is formed by the:
   A. Ethmoid bone
   B. Superior Conchae
   C. Middle Conchae
   D. Nasal Septa

3. The pitch of the voice is regulated by the movement of the:
   A. Thyroid Cartilage
   B. Cricoid Cartilage
   C. Epiglottis
   D. Arytenoid Cartilage

4. Which one of the structures listed would have no cartilage at all in its walls?
   A. Primary Bronchi
   B. Respiratory Bronchi
   C. Secondary Bronchi
   D. Trachea

5. The smallest amount of carbon dioxide in the blood travels in the form of:
   A. Bicarbonate Ions
   B. Carbamino Compounds
   C. Dissolved Carbon Dioxide gas
   D. Carboxyhemoglobin

6. Which one of the following structure listed is passed thirdly by air during inspiration?
   A. Secondary Bronchi
   B. Alveolar Sac
   C. Respiratory Bronchiole
   D. Terminal Bronchiole

7. Which one of the following would be pierced thirdly by a point of a pin entering from the outside?
   A. Pleural Cavity
   B. Visual Pleura
   C. Parietal Pleura
   D. Lungs
8. Cutting the nerves that go from the respiratory center in the medulla to the respiratory muscles will:
   A. Increase the breathing rate
   B. Decrease the breathing rate
   C. Completely stop breathing
   D. Do none of the above

9. Tidal volume refers to:
   A. Amounts of air inhaled beyond normal inspiration
   B. Amount of air you inhale and exhale during normal quiet breathing
   C. Volume of air that cannot be exhaled
   D. Amount of air exhaled beyond normal expiration

10. The function of the paranasal sinuses is to:
    A. Resonate sound
    B. Diffuse oxygen to tissues
    C. Lighten skull
    D. A & C
    E. B & C

11. The central nervous system consists of the:
    A. Cranial Nerves
    B. Brain
    C. Spinal Nerves
    D. Spinal Cord
    E. B & D

12. The Autonomic Nervous System:
    A. Innervates skeletal muscle
    B. Is voluntary
    C. Innervates smooth muscle
    D. None of the above

13. Which one of the following is not correct of the CNS?
    The CNS:
    A. Receives input from motor nerve cells
    B. Is the integrative and control center of the nervous system
    C. Lies within dorsal cavity
    D. Is completely surrounded by bony structure

14. The three regions of the Pharynx are the__________,
    the__________, and the__________.

15. Which of the following factors causes oxyhemoglobin to dissociate easier?
    A. Lower temperatures
    B. Lower PH conditions
    C. Higher oxygen concentrations
    D. Lower carbon dioxide concentrations
16. External respiration is the exchange of gases between the _______ and _______ at the _______ of the lungs.

17. Which of the following has the **highest** concentration of oxygen?
   A. Pulmonary Arteries
   B. Systemic Veins
   C. Pulmonary Veins
   D. None of the above

18. An artery is defined as a blood vessel that carries blood away from _______ and toward _______.

19. Veins are blood vessels that carry blood away from _______ and toward _______.

20. What two sources will deliver blood to the lungs?
   1. _______
   2. _______

21. The four pairs of paranasal sinuses are:
   1. _______
   2. _______
   3. _______
   4. _______

22. The Bicarbonate Ion is replaced by a _______ when it diffuses out of a red blood cell.

23. How does hyperventilation affect the pH of the blood and the delivery of oxygen?
   _______

24. Which one of the following is **not** a factor that will affect the dissociation of oxygen from hemoglobin?
   A. Temperature
   B. pH
   C. Heart Rate
   D. Level of pCO₂

25. Which one of the following is the most abundant protein in blood?
   A. Gamma Globulin
   B. Albumin
   C. Hemoglobin
   D. Elastin

26. The enzyme _______ catalyzes carbon dioxide and water into _______ which dissociates into _______ ion and _______ ion.
27. What are two things the Bohr effect will do?
   A. 
   B. 

28. If the rhythmicity area and the apneustic area are operating without the pneumotaxic, which of the following type of breathing patterns results?
   A. All breathing stops
   B. Short inspiration and/or long hard expiration
   C. Totally irregular breathing
   D. Strong inspiration with weak expiration

29. Chemoreceptors are found in the and they detect changes in the concentrations of , , and .

30. What cluster of neurons in the respiratory center is responsible for sending inhibitory impulses to the diaphragm?
   A. Pneumothorax area
   B. Expiratory group
   C. Inspiratory group
   D. A & C

31. Answer the following 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.
   A. The diaphragm and external intercostal muscles relax during inspiration.
   B. The trachea is made up of elastic cartilage.
   C. The higher the level of pCO₂, the higher the pH, which will cause more oxygen to dissociate from hemoglobin.
   D. The rhythmicity area is located in the pons and can produce normal breathing alone.
   E. If stretch receptors detect greatly stretched lungs, they will cause the inhibition of the expiratory group of neurons in respiratory center.
   F. The lower the concentration of PO₂, the more oxygen will dissociate from hemoglobin.
   G. External respiration occurs at the systemic capillaries.
32. The portion of a neuron that is receptive are the:
   A. Axons
   B. Nerve cell bodies
   C. Nerves
   D. Dendrites

33. The function of the ependymal cells is______________________________,
    and they are located in______________________________.

34. The cells which form a segmented covering around the processes of many of the neurons in the PNS are called:
   A. Nerve cells
   B. Glial cells
   C. Schwann cells
   D. Ependymal cells

35. The connective tissue sheath that surround several fasciculi is called the:
   A. Perineurium
   B. Epineurium
   C. Endoneurium
   D. Exoneurium

36. Nissl bodies are:
   A. Mitochondria
   B. Golgi Apparatus
   C. Endoplasmic Reticulum
   D. Microtubules

37. Which one of the following is not true of the neurons carrying impulses from the eye?
   A. Sensory
   B. Afferent
   C. Unipolar
   D. Bipolar

38. The PNS is made up of all but which one of the following?
   A. The Afferent Division
   B. The Somatic Nervous System
   C. The Autonomic Nervous System
   D. Ganglia
   E. Nuclei

39. The most common structure of a typical neuron is__________,
    which means it has_____________dendrites and_____________axons.
40. Match the following specialized nerve endings with their functions:

<table>
<thead>
<tr>
<th></th>
<th>End bulb of Krause</th>
<th>A. Pain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nuerotendinous/golgi's tendon organ</td>
<td>B. Heat</td>
</tr>
<tr>
<td></td>
<td>Meissner's corpuscles</td>
<td>C. Skeletal muscle</td>
</tr>
<tr>
<td></td>
<td>Free nerve endings</td>
<td>D. Light touch</td>
</tr>
<tr>
<td></td>
<td>Neuromuscular</td>
<td>E. Cold</td>
</tr>
<tr>
<td></td>
<td>Ruffinii corpuscles</td>
<td>F. Motor, skeletal</td>
</tr>
<tr>
<td></td>
<td>Muscle spindles</td>
<td>G. Heavy pressure</td>
</tr>
<tr>
<td></td>
<td>Pacinien corpuscles</td>
<td>H. Activated by tension on tendon from contraction of muscle</td>
</tr>
</tbody>
</table>

41. Which one of the following is believed to be a mechanoreceptor?
   A. Golgi Tendon Organs
   B. Taste
   C. Ruffinii's
   D. End Bulbs of Krause

42. Interoceptors respond to _______________, _______________.

43. The positive change on the surface of an unstimulated neuron is primarily due to the accumulation of which one of the following ions?
   A. Potassium
   B. Sodium
   C. Calcium
   D. Magnesium
   E. Chlorine

44. Which one of these is most related to the concept of "local excitatory state"?
   A. Partial depolarization
   B. Refractory period
   C. Maximal stimulus
   D. All of the above

45. If a stimulus of sufficient intensity is applied to a neuron, the cell may reach threshold and trigger which one of the following potentials?
   A. Generator
   B. Local
   C. Action
   D. IPSP
46. Which one of the following is true?
   A. Action potentials are an all or none phenomenon
   B. Large diameter axons conduct action potentials at a slower rate than smaller diameter axons
   C. The action potentials in unmyelinated axons show saltatory conduction
   D. A nerve impulse is a graded response

47. The average resting membrane potential is:
   A. 90 Amps
   B. 50 Volts
   C. -100 mv
   D. -70 mv

48. What part of a neuron can transmit an impulse?
   A. Cell body
   B. Axon
   C. Dendrite
   D. Neuroglia

49. Which one of the following is true of the absolute refractory period?
   A. A much stronger stimulus can cause a second action potential
   B. Refractory periods have no effect on the number of action potentials that can occur in a given time
   C. A neuron cannot be made to have another action potential no matter how strong the stimulus

50. List the stages that occur in repolarization starting with the end of the action potential:

51. The neurotransmitter that is involved in raising the threshold or a neuron is__________________________.

52. A myelin sheath is a covering or wrapping that is produced by________________________ and composed of________________________.

53. When a neuron's responsiveness decreases due to constant stimuli, it is called________________________.
54. The gaps between the Schwann cells are called ______________.

55. Saltatory conduction uses less ATP because ________________.

56. In order for the neurotransmitter to be released ________________ must enter synaptic knobs.

57. What two things can happen to a neurotransmitter once it is released?
   A. ________________
   B. ________________

58. Answer the following true or false. If the answer is false, cross out the underlined word or phrase and write in the correct answer.
   A. An individual neuron only produces and secretes ________________ one type of neurotransmitter.
   B. ________________ Spatial summation is when a single excitatory pre-synaptic neuron will fire very rapidly over a short period of time
   C. ________________ Facilitation is when a neuron is inhibited by EPSP
   D. ________________ Convergence is when more than one presynaptic neuron synapses with ________________ only one postsynaptic neuron
   E. ________________ Excitatory neurotransmitters are capable of ________________ causing an action potential by decreasing the Na+ permeability
   F. ________________ The diameter of a nerve fiber does not effect the speed at which the impulse travels
   G. ________________ Myelin sheaths help nerve impulses to travel faster by blocking sodium channels

59. There are approximately ________________ different neurotransmitters.

60. A propagated action potential is described as a moving wave of ________________ spreading over ________________.

61. The endoneurium covers ________________ while the perineurium covers ________________ and the epineurium is the covering for ________________. 
A & P I
PRACTICE TEST 4
Answers

1. A
2. A
3. D
4. B
5. C
6. C
7. B
8. C
9. B
10. D
11. E
12. C
13. A
14. Nasopharynx, oropharynx, laryngopharynx
15. B
16. Atmosphere, blood, alveoli
17. C
18. The heart, the capillaries
19. The capillaries, the heart
20. 1) Pulmonary arteries & pulmonary capillaries
    2) Bronchial vessels (p. 652)
21. p. 719-20

22. Chloride ion

23. Increases pH, leading to alkalosis, Hb holds onto oxygen and will not release it.

24. C

25. C

26. Carbonic anhydrase
   Carbonic acid (H$_2$CO$_3$)
   A hydrogen ion
   Bicarbonate (HCO$_3^-$)

27. a) Will prevent drastic drop in pH from the free H$^+$ ions.
    b) Helps Hb unload more oxygen.

28. D

29. Aortic arch
   Carotid sinus
   Oxygen
   Carbon dioxide
   Hydrogen ion
   pH

30. B

31. a) F-contract
    b) F-hyaline
    c) F-lower, more
    d) F-medulla, cannot
    e) F-inspiratory group, in respiratory center
    f) T
    g) F-pulmonary capillaries

32. D

33. To produce CSF
   The lining of the ventricles of the brain, central canal of spinal cord & choroid plexuses.

34. C

35. B

36. C
37. C
38. E
39. Multipolar
   Many
   One
40. E
   H
   D
   A
   F
   B
   C
   G
41. A
42. Pressure
   Pain
   Chemical changes in the internal environment of the body.
43. B
44. A
45. C
46. A
47. D
48. B
49. C
50. Na+ gates close, K+ gates open, K+ goes out, intracellular fluid goes back to negative charge, resting conditions restored, Na+/K+ pump will exchange Na+ for K+ to resting level.
51. GABA (gamma aminobutyric acid)
52. Schwann cell
   A multiple wrapping of phospholipid
53. Adaption

54. The nodes of Ranvier

55. The action potential only occurs at the nodes of Ranvier

56. Ca+2

57. a) Be destroyed by an enzyme
    b) Be transported back into synaptic knob

58. a) T
    b) F-temporal summation
    c) F-kept close to threshold
    d) T
    e) F-increasing
    f) F-does
    g) T

59. 50 different neurotransmitters

60. Negative electrical charge
    The surface of the membrane

61. Each individual nerve fiber
    Each fascicle
    Several fascicles