Zoology 120 - Human Anatomy
Fourth Lecture Exam
November 29, 2000

Name:__________________________________________

Laboratory Time:________________________________

Instructions:

1. Write your ID Number on the answer sheet.

2. Write your name on the test and the answer sheet.

3. Block out the correct letter on the answer sheet after carefully reading the question.
   Use #2 or soft pencil to mark your answer sheet. When erasing, make sure the erasure
   is complete and clean, otherwise, the computer will mark you answer wrong.

4. Do your own work!

5. Only one letter answer is correct

6. There are a total of 25 questions, worth 2 points each, for a total of 50 points.
1. The oxygen and carbon dioxide are primarily transported as a dissolved gases in the plasma. Oxygen and carbon dioxide have same association with hemoglobin in the red blood cells.
   a. Both sentences are correct
   b. Both sentences are false
   c. The first sentence is true but the second sentence is false
   d. The first sentence is false but the second sentence is true

2. In the lungs, the pressure gradient forces oxygen into the blood. Oxygen is then carried to cells and tissues as:
   a. Oxyhemoglobin
   b. Carbaminohemoglobin
   c. Bicarbonate
   d. Dissolved oxygen in blood

3. The amount of tidal volume of inhaled air that does not undergo gaseous exchange is:
   a. Equal to about half of the lung volume
   b. As much as is found in the conducting portion of the system
   c. As much as is found in the respiratory portion of the system
   d. About the total inspiratory volume of lung
   e. About the amount in residual volume

4. Surfactant is found lining the ____________ of the lungs. Its main function is:
   a. Alveoli, increasing the volume in thoracic cavity
   b. Bronchi and bronchioles; preventing bronchi and bronchioles from collapsing
   c. Thoracic cavity; lubricating the lung surfaces
   d. All airways of the lung; keep the tubes open for air passage
   e. Alveoli; decrease surface tension and prevents alveoli collapse during breathing

5. What structures keep the trachea and bronchi open for air passage?
   a. Thoracic pressure
   b. Hyaline cartilage
   c. Smooth muscles
   d. Negative pressure in the lungs
   e. Rigid epithelial lining

6. Respiratory center is located in the following region(s) of the CNS:
   a. Medulla
   b. Cortex
   c. Thalamus
   d. Cerebellum
7. As partial pressure of oxygen in the blood increases, what happens to the oxygen-hemoglobin association?
   a. There is an increase in the oxygen-hemoglobin association
   b. There is a decrease in the oxygen-hemoglobin association
   c. There is an increase in partial pressure of oxygen in the blood
   d. Nothing happens to the oxygen-hemoglobin association

8. The following statement(s) is(are) correct about carbon dioxide:
   a. Holding the breath increases its concentration in the blood
   b. Its accumulation in the blood is associated with an increased acidity
   c. It is a powerful stimulant for respiration (hyperventilation)
   d. All above are correct

9. What factors make it possible to dislodge, at times, a piece of food that is stuck in the trachea?
   a. The size of the lungs
   b. Amount of inhaled air
   c. Residual volume of air in the lungs
   d. Dead space
   e. Length of trachea and bronchi

10. During strenuous exercise or activity, venous blood returning to the heart contains about 30% of oxygen. If the venous blood that is returned to the blood contains about 70% of oxygen, it indicates a decreased metabolic state or activity in the organism.
    a. The first sentence is true but the second sentence is false
    b. Both sentences are true
    c. Both sentences are false
    d. The first sentence is false but the second sentence is true

11. What is present in the aorta and carotid arteries that have a major effect on respiration?
    a. Chemoreceptors
    b. Baroreceptors
    c. Neurons or nerve cells
    d. Stretch receptors

12. Liver plays an important role in digestive processes by producing large quantities of digestive enzymes. One of these enzymes, bile, in turn, plays an important role in this process by accelerating the digesting of different food products.
    a. Both sentences are true
    b. Both sentences are false
    c. The first sentence is true, but the second one is false
    d. The first sentence is false, but the second one is true
13. Thought of food will initiate which phase of the digestive process?
   a. Intestinal
   b. Cephalic
   c. Gastric
   d. Absorptive

14. Which of the following apply to the small intestine?
   a. Its interior is designed to store digested food
   b. Bile is produced here
   c. Digestive enzymes are produced here
   d. Pepsin and HCL acid are produced here
   e. None of the above

*****For questions 15 through 19, use the following list. The words in the list can be used once, twice, or not at all.

   a. Secretin
   b. Bile
   c. Cholecystokinin (CCK)
   d. Trypsin
   e. Gastrin

15. Its secretion is increased during the gastric phase of the digestive process

16. This hormone activates the release of pancreatic juices rich in bicarbonate ions

17. This chemical activates inactive pancreatic enzymes in the small intestine to active enzymes

18. Causes contraction of gall bladder and release of bile into duodenum

19. Increases bile production in the liver during digestive processes

20. Carbohydrate digestion first begins in the:
   a. Stomach
   b. Small intestine
   c. Esophagus
   d. Mouth
   e. All of the above
21. The large intestine absorbs most of the digested food or nutrients. Once the nutrients are transported across the absorptive cells in the small intestine, however, the lacteals then transport the nutrients to the liver for further metabolism.
   a. Both sentences are true
   b. The first sentence is true but the second sentence is false
   c. Both sentences are false
   d. The first sentence is false but the second sentence is true

22. What activates the protein-digesting enzyme pepsin in the stomach?
   a. Cholecystokinin (CCK)
   b. Secretin
   c. Hydrochloric acid
   d. Pepsinogen
   e. Mucus

23. Which statement is correct:
   a. Bile salts emulsify carbohydrates so that they can be easily digested
   b. Cholecystokinin (CCK) increases absorptive activities in the small intestine
   c. Secretions from liver contain the enzymes necessary for digestion.
   d. Carbohydrate digestions starts in the stomach
   e. Brush border enzymes break down various nutrients into small molecules for absorption

24. What influence does the intestinal phase of digestion exert on the digestive process?
   a. It stimulates further digestion in the stomach
   b. It increases absorptive functions of the small intestine
   c. It increases evacuation of chyme into the colon
   d. It inhibits gastric secretions and emptying

25. Where is the primary purpose of lacteals?
   a. Transport of fat
   b. Production of digestive hormones
   c. Absorption of amino acids, glucose, and proteins
   d. Structural support of villi
   e. Increase gut motility