Zoology 120 - Human Anatomy
Fourth Lecture Exam
November 17, 1999

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 your 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.
For Question 1 through 5, choose the correct statement.

a. Fossa ovales
b. Foramen ovale
c. Ductus arteriosus
d. Ductus venosus
e. None of the above

1. Serves as bypass between right and left atria in a normal fetal heart
2. Serves as a bypass between aorta and pulmonary trunk in the fetal circulation
3. Appears as a depression in the right atrial wall of a normal adult heart
4. Appears as a bypass between right and left ventricle in a normal fetal heart
5. Serves as a bypass in the liver in the fetal circulation
6. Is immediately closed in a normal newborn when the oxygenated blood first returns from the lung into left atrium
7. The oxygen is primarily transported as a dissolved gas in the plasma. On the other hand, almost all of carbon dioxide is transported bound to hemoglobin.
   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
8. When the thorax expands and the diaphragm muscles contract, what type of respiratory activity occurs?
   a. Air enters the lungs
   b. Air exits the lungs
   c. Air stays in the lungs
   d. No respiratory activity occurs
9. About how much of the tidal volume of inhaled air does not undergo gaseous exchange:
   a. As much as is found in the conducting portion of the system
   b. As much as is found in the respiratory portion of the system
   c. About half of tidal volume
   d. All of the tidal volume
10. Surfactant is an important chemical that is found in the ________ of the lungs. It functions by:
   a. Alveoli, increasing the volume in thoracic cavity
   b. Bronchioles, preventing bronchioles of the lung from collapsing
   c. Alveoli, strengthening the alveoli wall
   d. Alveoli, preventing alveoli from collapsing

11. Dead space in the lung would found in which of the following structures:
   a. Alveoli
   b. Respiratory bronchioles
   c. Trachea
   d. Bronchi
   e. C&D

12. Respiratory center is located in the following region(s) of the CNS:
   a. Medulla
   b. Cortex
   c. Thalamus
   d. Hypothalamus
   e. All of the above

13. The following statement(s) is(are) correct about carbon dioxide:
   a. Holding the breath increases carbon dioxide concentration in the blood
   b. Its accumulation in the blood is associated with an increased acidity
   c. It is carried in the blood mostly in the form of a bicarbonate ion
   d. All above are correct

14. What lung volume makes it possible to dislodge, at times, a piece of food that is stuck in the trachea?
   a. Tidal volume
   b. Inspiratory reserve volume
   c. Dead space
   d. Residual volume

15. What is present in the aorta and carotid arteries that have a major effect on respiration?
   a. Chemoreceptors
   b. Baroreceptors
   c. Sensory neurons or nerve cells
   d. Stretch receptors
16. Liver plays an important role in digestive processes by producing large quantities of bile. Bile, in turn, plays an important role in this process by emulsifying fat in the duodenum.
   a. Both sentences are false
   b. Both sentences are true
   c. The first sentence is true, but the second one is false
   d. The first sentence is false, but the second one is true

17. Thought of food will initiate which phase of the digestive process?
   a. Cephalic
   b. Intestinal
   c. Gastric
   d. none of the above

18. What is correct order of gastric emptying following a meal?
   a. Fats, carbohydrates, proteins
   b. Carbohydrates, fats, proteins
   c. Carbohydrates, proteins, fats
   d. Proteins, carbohydrates, fats

19. 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

20. The secretion of secretin is stimulated by:
   a. Chewing of food
   b. Presence of acidic chyme in the duodenum
   c. Contraction of gall bladder
   d. All of the above

21. 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. Hormone gastrin induces secretion of large volume of gastric juices in the stomach

22. What neutralizes the acidic chyme in the duodenum?
   a. Secretin from the duodenum
   b. Bicarbonate ions from the pancreas
   c. Bile from the liver
   d. Pepsinogen from the stomach
   e. Enzymes from the pancreas
23. Pancreas produces many digestive enzymes. In addition, digestive enzymes are also present in the microvilli of the cells or in intestinal brush border of the small intestine.
   a. Both sentences are true
   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

24. Trypsin and chemotrypsin are enzymes that will digest ______________ while salivary amylase and pancreatic amylase are enzymes that will digest ______________?
   a. fats, proteins
   b. carbohydrates, fats
   c. proteins, carbohydrates
   d. carbohydrates, proteins

25. Glucose and amino acids are absorbed into the ______________ of the villus; long-chain fatty acids and chylomicrons are absorbed into the ______________ of the villus.
   a. Capillaries, lacteal
   b. Capillaries, capillaries
   c. Lacteal, lacteal
   d. Lacteal, capillaries