

Anatomy and Physiology Exam (2017-18)

Respiratory, Digestive, and Immune

Metea Valley High School

Respiratory	/31
Digestive	/37
Immune	/37
Total	/105

Respiratory

1) What are the two functional zones of the Respiratory System and their jobs?

2) What is the difference between bulk flow and efficient diffusion? Arnold has a problem diffusing oxygen to the cells that require them. What type of tissue is damaged in Arnold's system?

3) What are the two cone shaped organs in the thoracic cavity that are central to the respiratory system? Victor is having a tough time breathing and feels a burning sensation whenever he does. What area of this cone shaped region is the root of this issue?

4) What are the main steps of respiration.

5) Steven walks to the top of the mountain. He finds that it is much harder to breathe there. Why is this so?

6) What is the term used for the normal pattern of breathing.

- 7) What is the major factor that affects how high the affinity for Oxygen is in a hemoglobin protein?

- 8) What is a fully saturated hemoglobin protein called?

- 9) What are the components of one respiratory unit?

- 10) What is the major brain center that controls respiration.

- 11) What anatomical area that splits into the left and right bronchi?

- 12) What is the Hering-Breuer Reflex?

- 13) What muscle lays inferior to the lungs and allows for expansion and contraction?

- 14) Carbon dioxide in the blood reacts with water to form carbonic acid. That is how the the pressure systems equalize. For this reaction to occur, a protein enzyme is needed. What is the name of that enzyme?

- 15) What are the three folds of the nasal cavity?

Digestive

- 1) What is the involuntary muscular movement down the esophagus called?

2) What are the five stages to the digestive system and explain each?

3) What are the two main types of salivary glands?

4) Now name each of the glands that make up those two separate types of salivary glands.

5) What is the entry point of the esophagus called? What about the entrance into the stomach?

6) What are parietal and chief cells and what do they each secrete?

7) Where is Gastrin secreted from? What type of cell is the cell that secretes Gastrin?

8) What are the regions of the small intestine called? Which is typically the longest portion?

9) On the floor of the small intestine, between the bases of the villi, there are numerous pores that open into tubular glands called intestinal crypts. They contain a certain enteroendocrine cell. What is it and what enzyme does it release? What does this enzyme do?

10) Where is bile made and where is it held?

11) Why is the term "heartburn" misleading? What is the actual cause of it?

12) What are ways that the stomach protects itself from self-digestion?

13) What is the term that is used for food that is semi digested?

14) What is the term used for food that is massed up at the moment of swallowing?

15) What are the components that make up saliva?

Immune

1) Where is IgG located and what is its major function?

2) What are the steps in antibody production in terms of a B cell?

- 3) What are idiotypes?
- 4) Samuel has found it difficult to breathe recently. He has wheezing broncholitis, what is this caused by?
- 5) Hyper IgD syndrome (HIDS) lacks what enzyme? And what are some of its features?
- 6) How do white blood cells travel out of the bloodstream?
- 7) How does HIV establish itself in the body?
- 8) Why are CD4+ T cells depleted by HIV?
- 9) What are cytokines that are expressed by white blood cells and modulate cellular behavior?
- 10) How do Cytotoxic cells kill cells?

11) What is the difference between adaptive and innate immunity? (Go in depth)

12) What is the response to nonself antigens on transplanted organs?

13) What are the 6 leukocytes and describe them?

14) What are the 5 Major Immunoglobulins?

15) What are the polymorphonuclear leukocytes?