Respiratory System

True or False (1 pt)

1. ___T____       2. ___T____       3. ___F____       4. ___F____       5. ___F____       6. ___F____

Short Answers

7. As the concentration of CO$_2$ in the blood increases, it leads to increased levels of hydrogen ions, decreasing pH. The increase in hydrogen ions in the brain triggers the central chemoreceptors to stimulate the respiratory centers to initiate contraction of the diaphragm and intercostal muscles. As a result, the rate and depth of respiration increase, allowing more carbon dioxide to be expelled.

8. When ventilation is not sufficient for an alveolus, the partial pressure of oxygen in the alveolus decreases. As a result, the pulmonary capillaries serving this alveolus will constrict, redirecting blood flow to other alveoli that are receiving sufficient ventilation.

9. Increased CO$_2$ (Decreased pH), Increased Temperature, Increased 2,3 BPG

10. ___H$_2$O_________    ___H$_2$CO$_3$_________      Carbonic anhydrase (CA)

11. Carbon dioxide can be transported by three mechanisms: dissolved in plasma, as bicarbonate, or as carbaminohemoglobin. Dissolved in plasma, carbon dioxide molecules simply diffuse into the blood from the tissues. Bicarbonate is created by a chemical reaction that occurs mostly in erythrocytes, joining carbon dioxide and water by carbonic anhydrase, producing carbonic acid, which breaks down into bicarbonate and hydrogen ions. Carbaminohemoglobin is the bound form of hemoglobin and carbon dioxide

12. Kidneys________   erythropoietin (EPO)

Multiple Choice

Digestive System

True or False

24. __F____ 25. __F____ 26. __T____ 27. __F____ 28. __T____

Short Answers

29. Lamina Propria of Mucosa

30. Duodenum, Pancreas, Ascending colon, Descending colon, Rectum

31. Once the chyme reaches duodenum, pancreas produce bicarbonate-rich juices help neutralize acidic chyme and provide optimal environment for enzymatic activity.

32. parietal cell ---- Hydrogenchoric acid and intrinsic factor

            pancreas ---- Bicarbonate juice

            gallbladder and liver ---- bile

33. enamel

34. soft palate   uvula   glottis

35. The incisors. Since these teeth are used for tearing off pieces of food during ingestion, the player will need to ingest foods that have already been cut into bite-sized pieces until the broken teeth are replaced.

36. The mucosal barrier protects the stomach from self-digestion. It includes a thick coating of bicarbonate-rich mucus; the mucus is physically protective, and bicarbonate neutralizes gastric acid. Epithelial cells meet at tight junctions, which block gastric juice from penetrating the underlying tissue layers, and stem cells quickly replace sloughed off epithelial mucosal cells.

37. Nutrients from the breakdown of carbohydrates and proteins are absorbed through a capillary bed in the villi of the small intestine. Lipid breakdown products are absorbed into a lacteal in the villi and transported via the lymphatic system to the bloodstream.

38. The pancreas secretes protein-digesting enzymes in their inactive forms because if secreted in their active forms, they would self-digest the pancreas. These enzymes are activated in the duodenum.

Multiple Choice


Anatomy & Physiology Answer Sheet

**Immune system**

**True or False**

49. ___T___ 50. ___F___ 51. ___F___ 52. ___T___ 53. ___F___

**Multiple Choice**


**Short Answers**

64. B cells activated during a primary response differentiate either into terminally differentiated plasma cells or into memory B cells. These memory B cells are what respond during a secondary or memory antibody response.

65. Unlike the cardiovascular system where the blood is actively circulated by the heart, lymph is forced through the vessels via one way valves by the movement of the body, contraction of the skeletal muscles and breathing.

**Name the disease/disorder**

66. Cystic Fibrosis 71. Emphysema
67. Sleep Apnea 72. Type I Diabetes Mellitus
68. Pneumonia 73. Multiple Sclerosis
69. Lung Cancer 74. AIDS
70. Asthma 75. Grave’s Disease

**Identify pattern of breathing**

76. Apnea 80. Hyperpnea
77. Eupnea 81. Orthopnea
78. Tachypnea 82. Hyperventilation
79. Dyspnea
Identify the pictured cells

83. E
84. A, B, C
85. A, D
86. D
87. C

Identify the parts of the digestive system

A. Gallbladder        H. Esophagus
B. Transverse Colon   I. Liver
C. Cecum              J. Appendix
D. Pancreas           K. Fundus
E. Stomach            L. Rugae
F. Spleen             M. Lesser Curvature
G. Duodenum           O. Pyloric Sphincter

Identify the parts of respiratory system

A. Nasal Concha       F. Palatine Tonsil
B. Hard Palate        G. Vocal Cord
C. Epiglottis         H. Cardiac Notch
D. Trachea            I. Superior lobe of Right Lung
E. Uvula              J. Horizontal fissure

****Tie Break: Pseudostratified ciliated columnar epithelium of Trachea, Exocrine and Endocrine cells of Pancreas, Villi of Small Intestine