

FISHERS HIGH SCHOOL ANATOMY AND PHYSIOLOGY TEST 2017

Point Breakdown

- 52 Multiple Choice Questions- 1 point each: 52 points total
- Free Response Questions- 15 points total
 1. 3 points
 2. 2 points
 3. 3 points
 4. 3 points
 5. 4 points
- Matching Questions: 14 points total
 - 1-5 on antibodies: 5 points (1 point each)
 - 1-9 on breathing patterns: 9 points (1 point each)
- Total points possible: **81 points**

Complete the following multiple choice questions. (1 point each)

1. Which of the following nonrespiratory movements has the most similar mechanism to laughing?
 - a. coughing
 - b. crying
 - c. yawning
 - d. hiccuping
2. Which of the following disorders involves the alveolar walls breaking down and the surface of the lungs being reduced?
 - a. asthma
 - b. chronic bronchitis
 - c. emphysema
 - d. Pneumonia
3. Vibration due to exhaled air that results in speech is a function of the
 - a. trachea
 - b. epiglottis
 - c. nasopharynx
 - d. true vocal cords
4. Which description below describes the way 60% of carbon dioxide is transported in blood?
 - a. as bicarbonate
 - b. physically dissolved in plasma
 - c. bound to Hb
 - d. bound to another molecule of carbon dioxide
5. Which step below is the first step in external respiration?
 - a. oxygen and carbon dioxide exchanged between alveoli and blood by diffusion across pulmonary capillaries
 - b. blood transports oxygen and carbon dioxide between lungs and tissues
 - c. oxygen and carbon dioxide are exchanged between tissue and blood by diffusion across systemic capillaries
 - d. ventilation is flow of air into and out of lungs
6. Which of the following statements is false regarding the pharynx?
 - a. 5 inches long
 - b. commonly called the throat
 - c. continuous with the nasal cavity via the internal nares
 - d. plays a role in speech

7. What is tidal volume?
 - a. amount of air inhaled or exhaled with each breath under resting conditions
 - b. amount of air remaining in lungs after forced exhalation
 - c. amount of air that can be inhaled during forced breathing
 - d. amount of air that can be exhaled during forced breathing
8. Which of the following equations best describes total lung capacity?
 - a. $TV + IRV + ERV$
 - b. $VC + RV$
 - c. $ERV + RV$
 - d. $TV + IRV$
9. Respiratory control center is located in the:
 - a. brainstem
 - b. midbrain
 - c. frontal Lobe
 - d. parietal Lobe
10. Shortness of breath associated with release of histamine is:
 - a. asthma
 - b. emphysema
 - c. Bronchitis
 - d. Pneumonia
11. Which statement below is not an effect of exercise on the respiratory system?
 - a. The muscle cells produce increased amounts of carbon dioxide
 - b. The brain tells the heart to beat faster
 - c. The brain detects increasing levels of oxygen- a signal is sent to the lungs to decrease breathing
 - d. Breathing rate and the volume of air in each breath increases
12. Which of the following describes the mucosa layer of the wall of the digestive system?
 - a. Thick layer of connective tissue that provides distensibility and elasticity
 - b. Lines the luminal surface of the digestive tract.
 - c. Outer connective tissue covering; secretes serous fluid and prevents friction
 - d. major smooth muscle coat of the digestive tract.
13. List the layers of the alimentary canal from the lumen to the outside.
 - a. mucosa, muscularis externa, submucosa, serosa
 - b. mucosa, submucosa, muscularis externa, and serosa
 - c. submucosa, muscularis externa, serosa, mucosa
 - d. Mucosa, submucosa, serosa, muscularis externa

14. What are the parts of the large intestine?
 - a. colon, cecum, appendix, and rectum
 - b. cecum, ileum, colon, appendix
 - c. colon, cecum, jejunum, ileum
 - d. ileum, jejunum, duodenum, colon
15. The posterior region of the tongue is attached to hyoid bone, it is covered with lymphatic tissue called
 - a. Palatine Tonsils
 - b. Lingual Tonsils
 - c. Pharyngeal Tonsils
 - d. Sublingual gland
16. This enzyme splits molecules of starch or glycogen into disaccharides
 - a. Pancreatic Lipase
 - b. Carboxypeptidase
 - c. Pancreatic Amylase
 - d. Trypsin
17. What are the four functions of the digestive system?
 - a. Absorption, secretion, nutrition, motility
 - b. Absorption, secretion, digestion, motility
 - c. Secretion, digestion, motility, decomposition
 - d. Secretion, absorption, nutrition, decomposition
18. What are the bacteria in the GI tract that aid in digestion called?
 - a. Gut flora
 - b. Spirillum
 - c. Mycobacterium
 - d. Bacillus
19. Where does the body store fat-soluble vitamins, such as vitamins A, D, E, and K?
 - a. Stomach & liver
 - b. Stomach & fatty tissue
 - c. Liver & stomach
 - d. Liver & fatty tissue
20. Malfunction of this sphincter results in Gastroesophageal reflux disease
 - a. Upper esophageal sphincter
 - b. Lower esophageal sphincter
 - c. Pyloric Sphincter
 - d. Hepatopancreatic sphincter

21. Extra Iron in the blood is mostly stored in
- Pancreas
 - Stomach
 - Liver
 - Kidney
22. In addition to water, bile contains:
- Protein
 - Carbohydrate
 - Cholesterol
 - Minerals
23. Contraction of gallbladder to release bile is controlled by:
- trypsin
 - Chymotrypsin
 - Cholecystokinin
 - Lipase
24. A lack of Bile Salts results in:
- Poor lipid absorption
 - Poor Carbohydrate absorption
 - Poor Protein metabolism
 - Electrolyte imbalance
25. The S shaped curve just below the rectum is the:
- Ascending colon
 - Descending Colon
 - Sigmoid colon
 - Transverse colon
26. Lack of Vitamin A causes
- Weak Bones
 - Effect on Skin and Vision
 - Decreased immunity
 - Impaired clotting
27. This mineral deficiency causes altered taste
- Mg
 - Calcium
 - Zinc
 - Cobalt
28. Xerostomia means:
- Dry Mouth
 - Dry Skin
 - Dry Hair
 - Dry Nose

29. This lipoprotein is responsible for removing cholesterol from tissues and delivering it to liver.
- LDL
 - Triglycerides
 - HDL
 - VLDL
30. Most absorption happens in which part of GI tract:
- Large Intestine
 - Stomach
 - Small Intestine
 - Liver
31. The jejunum and ileum are suspended from the posterior abdominal wall by
- Greater Omentum
 - Lesser Omentum
 - Mesentery
 - Mucosa
32. What is the correct term to describe the migration of white blood cells toward bacteria?
- Chemotaxis
 - Phagocytosis
 - Metastasization
 - Chemiosmosis
33. Which of the following statements does not describe a toxoid vaccine?
- The resultant protein product is used to provoke the immune system.
 - A purified toxin produced by the antigen is used to elicit immune response.
 - Genes for microbial antigens are inserted into a plasmid vector and are cloned in appropriate hosts.
 - These vaccines contain all or part of the pathogen's DNA.
34. Which immune disease involves the thyroid gland producing excessive amounts of thyroxine?
- Grave's Disease
 - Myasthenia gravis
 - Multiple Sclerosis
 - Rheumatoid arthritis
35. As one gets older, the thymus gland _____.
- Enlarges
 - Shrinks
 - Softens
 - Hardens

36. What is the function of the thymus gland?
- Produce beta cells
 - Produce T-cells
 - Produce lymph
 - Produce blood cells
37. Which cell type does not perform phagocytosis?
- Neutrophil
 - Basophil
 - Eosinophil
 - Mast cell
38. Police : criminals as _____ : _____
- Red Blood Cells : Oxygen
 - Thrombocytes : antigens
 - Antibodies: microbes
 - Thrombocytes : neutrophils
39. What are the two immune systems that the human body has?
- Innate & Adaptive
 - Acquired & Specific
 - Innate & Responsive
 - Acquired & Adaptive
40. Neutrophils are part of what immune system?
- Adaptive
 - Innate
 - Specific
 - Responsive
41. Natural Killer T-Cells are considered part of what immune systems?
- Innate & Adaptive
 - Acquired & Specific
 - Innate & Responsive
 - Acquired & Adaptive
42. What is the difference between humoral and cell-mediated immunity?
- Cell-mediated immunity focuses on using cell macromolecules to fight against microbes whereas humoral immunity revolves around the activation of phagocytes.
 - Cell-mediated immunity is often referred to as antibody-mediated immunity while humoral immunity is often referred to as antigen-mediated immunity.
 - Cell-mediated that does not involve antibodies, whereas humoral does.
 - All of the above are true.

43. What is an example of an autoimmune disease?
- Sickle Cell Disease
 - Alzheimer's
 - Lou Gherig's Disease
 - Multiple Sclerosis
44. The spleen's function is to ____.
- Produce antibodies
 - Filter blood
 - Create lymph fluid
 - Filter urine
45. What is the function of Peyer's Patches?
- To generate memory lymphocytes for long-term immunity
 - Remove pathogens from food or air
 - Extract aged red blood cells
 - Stores platelets
46. What are the 4 signs of short term inflammation?
- Swelling, heat, fever, pain
 - Swelling, redness, heat, pus
 - Redness, heat, swelling, pain
 - Redness, heat, fever, pus
47. Which of the following explains diapedesis?
- Chemical signals prompt neutrophils to flatten out of capillaries
 - Neutrophils migrate to site of injury
 - Inflamed cells sprout cell adhesion molecules
 - Chemicals from injured site attract natural killer cells
48. Which 2 cells secrete pyrogens?
- Natural killer cells, macrophages
 - Leukocytes, macrophages
 - Leukocytes, natural killer cells
 - Eosinophils, macrophages
49. Which of the following does not describe basic antibody structure?
- Y or T shaped
 - 4 heavy chains
 - Each antibody has a constant region
 - Each antibody has a variable region
50. Allografts are defined as:
- Tissue grafts transplanted from one genetically different individual to another
 - Tissue grafts transplanted from one body site to another in the same person
 - Tissue grafts transplanted from one species to another
 - Tissue grafts transplanted from one genetically identical individual to another

51. What are cytokines?
- a. antibodies
 - b. polypeptides
 - c. carcinogens
 - d. viruses
52. Which type of immunity is generally caused by vaccines?
- a. artificially acquired passive immunity
 - b. naturally acquired passive immunity
 - c. artificially acquired active immunity
 - d. naturally acquired active immunity

FRQ QUESTIONS- (Points vary per question)

1. **Compare and contrast inspiration and expiration.**

(3 points: 1 point for discussing defining each term correctly, 1 point for similarity, 1 point for a difference)

2. **What happens during heartburn?**

(2 points: 1 point for definition of heartburn, 1 point for elaboration)

Matching:

Match the antibody with its function. (1 point for each correct match)

- | | |
|--------------|--|
| 1. IgE _____ | a. First released to blood by plasma cells |
| 2. IgD _____ | b. Found in mucus; Prevents pathogens from entering the body |
| 3. IgA _____ | c. Always bound to B cells |
| 4. IgM _____ | d. Involved in allergies |
| 5. IgG _____ | e. Can cross placenta; most abundant |

Match the breathing pattern its definition (1 point for each correct match).

- | | |
|---------------------------|--|
| 1. ___ Eupnea | a. shortness of breath |
| 2. ___ Apnea | b. occurs when lying down |
| 3. ___ Hyperpnea | c. normal, relaxed breathing |
| 4. ___ Hyperventilation | d. Permanent cessation of breathing |
| 5. ___ Orthopnea | e. increased rate and depth of breathing |
| 6. ___ Tachypnea | f. Accelerated respiration |
| 7. ___ Dyspnea | g. skipped breaths |
| 8. ___ Hypoventilation | h. increased pulmonary ventilation |
| 9. ___ Respiratory Arrest | i. reduced pulmonary ventilation |