

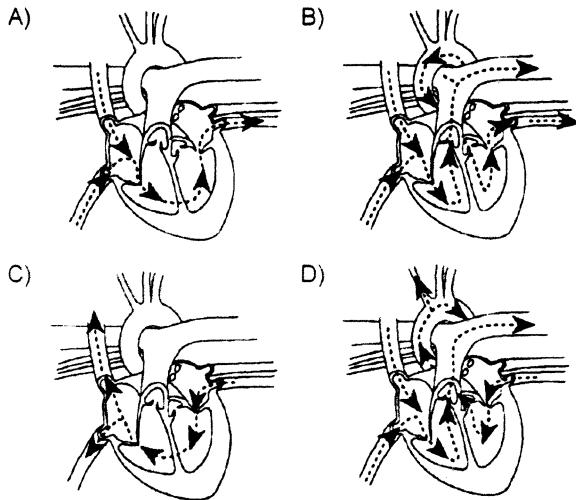
**Chaps 8,9 & 10 Review**

**Biology**

1. Enzymes and acidic juices in the stomach, which break proteins down into smaller molecules, is known as

- A) circulation
- B) chemical digestion
- C) excretion
- D) mechanical digestion

2. In which heart diagram do the arrows correctly represent the path of blood flow?



3. The absorptive surface of the small intestine is greater than that of other human digestive organs because of its length and the presence of

- A) alveoli
- B) neurons
- C) villi
- D) nephrons

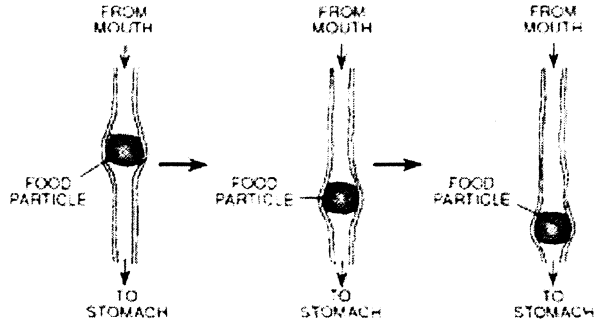
4. Which type of vessel normally contains valves that prevent the backward flow of materials?

- A) artery
- B) arteriole
- C) capillary
- D) vein

5. The human immune system fights infection by releasing

- A) ATPs
- B) antibiotics
- C) antibodies
- D) antigens

6. Which process is illustrated in the diagrams below?



- A) circulation
- B) absorption
- C) peristalsis
- D) ingestion

Base your answers to questions 7 and 8 on "the blood-typing chart below and on your knowledge of biology.

Individual	Antigens on Red Blood Cells	Antibodies in Plasma
1		anti-B
2	B	

7. Which antibodies, if any, are in the plasma of individual 2?

- A) anti-A, only  
B) anti-B, only  
C) both anti-A and anti-B  
D) neither anti-A nor anti-B

8. Individual 1 has blood type

- A) A                      B) B                      C) AB                      D) O

9. All of the following are organs of the digestive system except

- A) the stomach                      B) the mouth  
C) the intestines                      D) the heart

10. An organism develops active immunity as a result of

- A) manufacturing its own antigens  
B) producing antibodies in response to a vaccination  
C) receiving an injection of antibodies produced by another organism  
D) receiving an injection of a dilute glucose solution

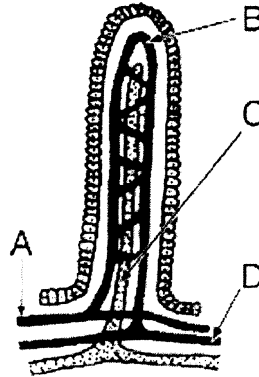
11. The movement of blood from the legs toward the heart is hindered by gravity. The effect of gravity is counteracted by

- A) smooth muscle in the capillaries  
B) cilia lining the blood vessels  
C) valves in the veins  
D) lymph nodes near major vessels

12. What occurs during the digestion of proteins?

- A) Specific enzymes break down proteins into amino acids.  
B) Specific hormones break down proteins into simple sugars.  
C) Specific hormones break down proteins into complex starches.  
D) Specific enzymes break down proteins into simple sugars.

13. Which structure represented in the diagram below absorbs most of the fatty acids and glycerol from the small intestines



- A) A                      B) B                      C) C                      D) D

14. Veins are blood vessels that

- A) deliver blood to the cells of the body  
B) contain striated muscle  
C) carry blood toward the heart  
D) readily exchange materials between the blood and body cells

15. The *lack* of which blood component interferes most with the transport of oxygen in humans?

- A) white blood cells                      B) red blood cells  
C) platelets                      D) antibodies

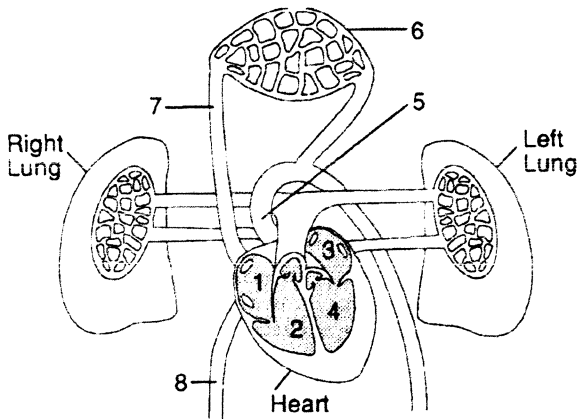
16. Newborn infants nursing from their mother receive milk containing antibodies against diseases to which the mother is immune. The infants, however, remain immune to those diseases for only a short time. This situation is an example of
- A) active immunity      B) passive immunity  
C) an oral vaccine      D) a phagocytic activity
17. With respect to the ABO blood group only, a transfusion of AB blood may safely be given to a person who has blood type
- A) A      B) B      C) AB      D) O

18. Which diagram best represents a blood cell from a person with type O blood?

A, B, O Blood Group Key	
	Blood cell
	Antigen 1
	Antigen 2

- A)      B)   
C)      D)

Base your answers to questions 19 and 20 on the diagram below which represents a portion of the human circulatory system and on your knowledge of biology.



19. Which chamber of the heart receives oxygenated blood from the lungs?
- A) 1      B) 2      C) 3      D) 4
20. Which chamber of the heart pumps deoxygenated blood to the lungs?
- A) 1      B) 2      C) 3      D) 4

21. Which foods should be included in a balanced diet as a good source of roughage?

- A) red meat and poultry  
B) fresh fruits and vegetables  
C) eggs and milk products  
D) animal fat and plant oil

22. Which part of human blood transports hormones and nutrients?

- A) plasma      B) platelets  
C) red blood cells      D) white blood cells

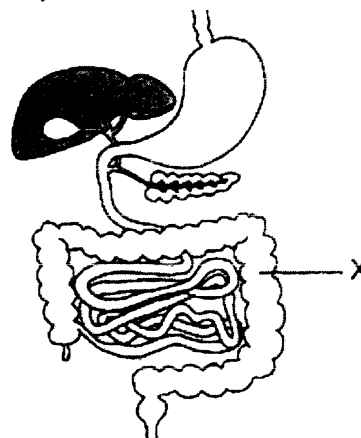
23. The interaction of which two systems provides the molecules needed for the metabolic activity that takes place at ribosomes?

- A) digestive and circulatory  
B) reproductive and excretory  
C) immune and nervous  
D) respiratory and muscular

24. When a new viral infection appears in a population, scientists usually try to develop a vaccine against the virus. Which substances would most likely be contained in the new vaccine?

- A) live bacteria that ingest viruses  
B) white blood cells from an infected individual  
C) weakened viruses associated with the infection  
D) a variety of microbes that will attack the virus

25. The diagram below represents a portion of the human body.



The principal function of structure X is to

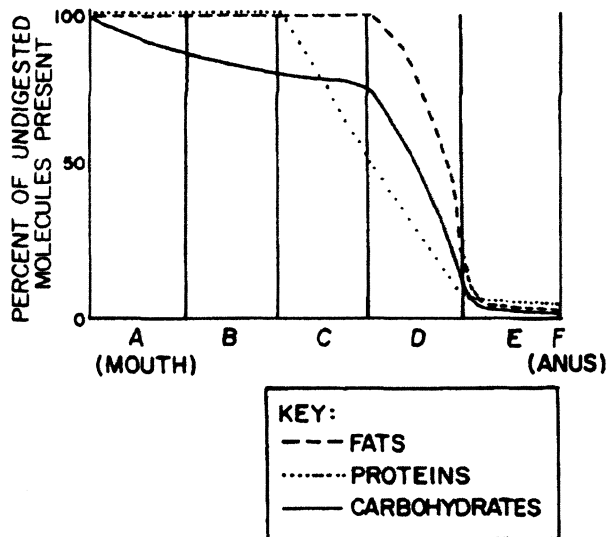
- A) produce salivary enzymes  
B) secrete sex hormones  
C) absorb water  
D) digest bile

26. A substance which causes an immunological reaction when introduced into the body of man is
- A) glucose                      B) insulin  
C) an antibody                D) an antigen
27. Whole blood of type O may safely be given to people with which types of blood?
- A) A and B, only                B) AB and A, only  
C) O and B, only                D) A, B, AB, and O
28. Bleeding from a small cut soon stops due to the release of enzymes from
- A) platelets                      B) activated antibodies  
C) hemoglobin                 D) white blood cells
29. Which statement best describes arteries?
- A) They have thick walls and transport blood away from the heart.  
B) They have thick walls and transport blood toward the heart.  
C) They have thin walls and transport blood away from the heart.  
D) They have thin walls and transport blood toward the heart.
30. Some vitamins are essential to an organism because they function as
- A) coenzymes                    B) auxins  
C) hormones                     D) neurotransmitters
31. An individual who has had chicken pox rarely gets this disease again. This situation is an example of
- A) biological control            B) negative feedback  
C) active immunity              D) passive immunity
32. For blood to pass through the heart from the left atrium to the left ventricle, it must *first* pass through
- A) an artery                      B) a valve  
C) a vein                         D) a capillary
33. Teeth chewing food into smaller digestible pieces is known as
- A) chemical digestion        B) circulation  
C) mechanical digestion       D) regulation
34. Which transport vessel is correctly paired with its usual function?
- A) lymph vessels – add blood toward the heart  
B) capillary – provides a site for the exchange of materials between the blood and body tissues  
C) artery – filters bacteria and dead cells from the lymph and the blood  
D) vein – produces white blood cells

35. Which chamber of the human heart receives most of the blood returning from the brain?

- A) left ventricle                B) right ventricle  
C) left atrium                    D) right atrium

Base your answers to questions 36 and 37 on your knowledge of biology and on the graph below which shows the extent to which carbohydrates, proteins, and fats are chemically digested as food passes through the human digestive tract. The letters represent sequential structures that make up the digestive tract.



36. The organ represented by letter C is most probably the
- A) esophagus                    B) stomach  
C) small intestine              D) large intestine
37. The final products of digestion are absorbed almost entirely in
- A) F                                B) B                                C) C                                D) D
38. In humans, structures that absorb most of the products of digestion are the
- A) ducts of the pancreas  
B) cells of the esophagus  
C) villi of the small intestine  
D) muscular folds of the gallbladder
39. The muscular nature of the walls of ventricles is most closely associated with their function of
- A) storing blood from the body  
B) producing red blood cells  
C) maintaining pressure lower than that in the atria  
D) forcing blood to the lungs and body
40. To determine heart rate, a student should count the pulsations per minute in
- A) a vein                         B) a capillary  
C) an artery                     D) a lymph vessel

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41. What is the role of teeth in digestion?

- A) They break down food chemically, aiding the movement of the food through the esophagus.
- B) They break down food chemically, mixing saliva with the food for easier digestion.
- C) They break down food mechanically, increasing the surface area of the food for enzyme action.
- D) They break down food mechanically, stimulating enzyme synthesis in the food.

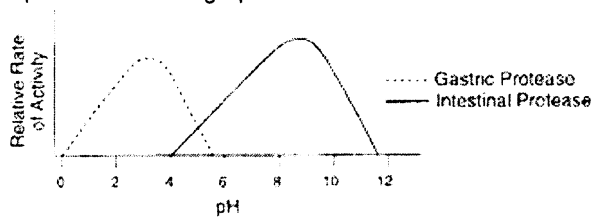
42. A disorder of the digestive system that can cause severe dehydration is known as

- A) appendicitis
- B) gallstones
- C) constipation
- D) diarrhea

43. The thick, muscular vessels that transport blood away from the heart are the

- A) atria
- B) arteries
- C) veins
- D) ventricles

44. Which statement best expresses the information represented in the graph shown below?



- A) The action of enzymes varies with pH.
- B) A pH of 7 provides the optimum environment for digestive enzymes.
- C) Gastric juice is active at a pH extending from 0 to 12.
- D) Acids have a pH greater than 7.

45. A pulse can be detected most easily in

- A) an artery
- B) a vein
- C) a capillary
- D) a lacteal

46. Which organ system in humans is most directly involved in the transport of oxygen?

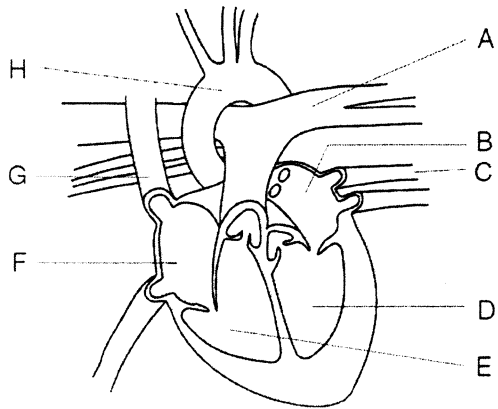
- A) digestive
- B) nervous
- C) excretory
- D) circulatory

47. The flow of blood to and from the lungs is referred to as

- A) pulmonary circulation
  - B) systemic circulation
  - C) autonomic circulation
  - D) somatic circulation
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48. Base your answer to the following question on "the diagram below of the human heart and on your knowledge of biology.



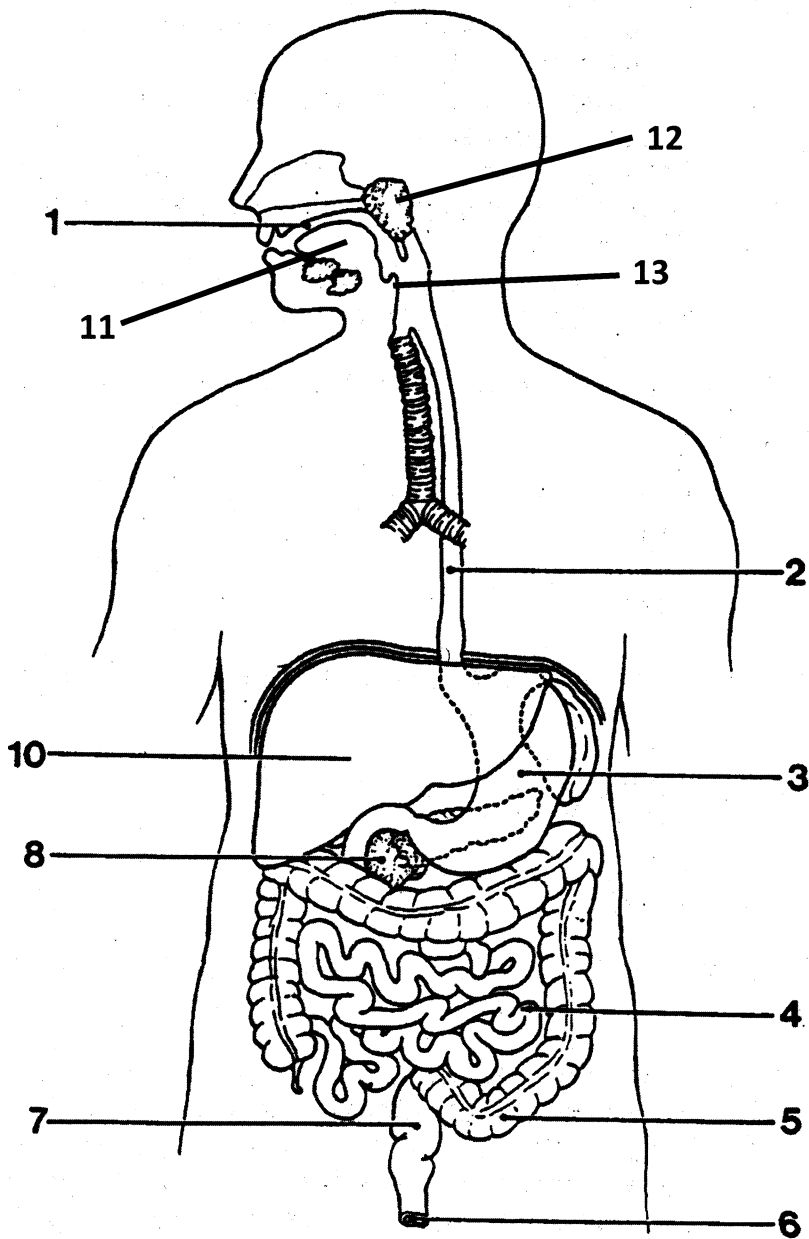
Which sequence represents part of the normal pathway of blood?

- A)  $D \rightarrow B \rightarrow F \rightarrow E \rightarrow A$                       B)  $G \rightarrow E \rightarrow F \rightarrow H \rightarrow D$   
C)  $B \rightarrow D \rightarrow H \rightarrow G \rightarrow F$                       D)  $C \rightarrow B \rightarrow D \rightarrow A \rightarrow G$

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49. Which nutrient should provide the largest percentage of calories in a well-balanced diet?

- A) carbohydrates              B) incomplete proteins  
C) saturated fats              D) water
-



Stomach \_\_\_\_\_

Epiglottis \_\_\_\_\_

Liver \_\_\_\_\_

Small Intestine \_\_\_\_\_

Rectum \_\_\_\_\_

Tongue \_\_\_\_\_

Appendix \_\_\_\_\_

Pancreas \_\_\_\_\_

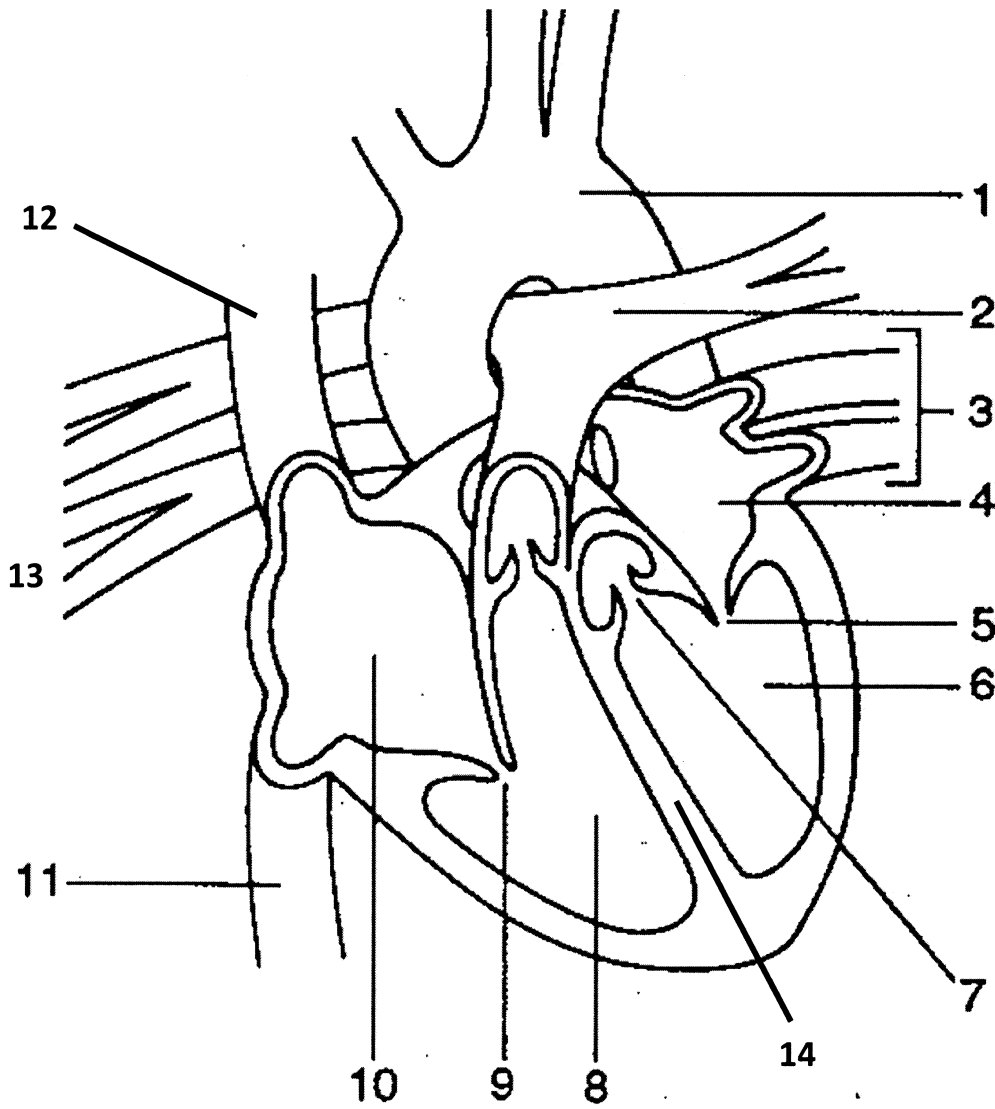
Salivary Glands \_\_\_\_\_

Mouth \_\_\_\_\_

Anus \_\_\_\_\_

Large Intestine \_\_\_\_\_

Esophagus \_\_\_\_\_



A. Inferior Vena Cava		I. Right Atrium	
B. Left Pulmonary Veins		J. Bicuspid Valve	
C. Aorta		K. Tricuspid Valve	
D. Left Atrium		L. Superior Vena Cava	
E. Right Ventricle		M. Right Pulmonary Veins	
F. Semilunar Valve		N. Septum	
G. Left Ventricle			
H. Pulmonary Arteries			