

Review of Digestive and Urinary Systems

Part 1 Multiple Choice

1. Which of the following is the ability of the digestive system to break down macromolecules into smaller units?
 - a. Peristalsis
 - b. Ingestion
 - c. Absorption
 - d. Hydrolysis
 - e. Elimination
2. The digestive system consists of a series of tissues surrounding a hollow space called the
 - a. Stomach
 - b. Lumen
 - c. Mucosa
 - d. Submucosa
 - e. Serosa
3. Chemical and mechanical digestion begins in the
 - a. Stomach
 - b. Pharynx
 - c. Esophagus
 - d. Mouth
4. Digestion is completed and products are absorbed in the
 - a. Mouth
 - b. Stomach
 - c. Small intestines
 - d. Large intestines
 - e. Liver
5. Thus accessory gland provides water, mucus, and enzymes to the mouth.
 - a. Salivary gland
 - b. Liver
 - c. Pharynx
 - d. Glottis
 - e. Tonsils
6. Bile
 - a. Is an important enzyme for the digestion of fats.
 - b. Is used in the stomach
 - c. Is made by the gallbladder
 - d. Emulsifies fats
 - e. Is an enzyme used for the digestion of proteins
7. Which of the following nutrients are loaded into chylomicrons and transported by the lymphatic system following digestion?
 - a. Carbohydrates
 - b. Proteins
 - c. Fats

- d. All are correct
8. After triglycerides are absorbed, they leave the cell and move into the
- a. Bloodstream
 - b. Intestinal cells
 - c. Liver
 - d. Lacteals
 - e. Pancreas
9. This structure blocks the opening to the respiratory system during swallowing.
- a. Esophagus
 - b. Pharynx
 - c. Salivary gland
 - d. Epiglottis
 - e. Glottis
10. Which of the following enzymes is matched to its correct nutrient?
- a. Amylase-starch
 - b. Lipase – fats and lipids
 - c. Protease – proteins
 - d. All are correct
 - e. None are correct
11. Which of the following is not a function of the liver in adults?
- a. Produces bile
 - b. Detoxifies alcohol
 - c. Stores glucose
 - d. Produces urea
 - e. Makes red blood cells
12. The large intestines
- a. Digests all types of foods
 - b. Is the longest part of the intestinal tract
 - c. Is connected to the stomach
 - d. Absorbs water
 - e. Is subject to hepatitis
13. Which of these is not found in the renal medulla?
- a. Loop of nephron
 - b. Collecting ducts
 - c. Peritubular capillaries
 - d. Renal corpuscle
14. The majority of the nephron, including the glomerulus, is located in what region of the kidney?
- a. Adrenal gland
 - b. Renal medulla
 - c. Renal pelvis

d. Renal cortex

15. Which of the following materials would not normally be filtered from the blood at the glomerulus?

- a. Water
- b. Urea
- c. Protein
- d. Glucose
- e. Sodium ions

16. Sodium is actively extruded from which part of the nephron?

- a. Descending portion of the proximal convoluted tubule
- b. Ascending limb of the loop of Henle
- c. Ascending portion of the distal convoluted tubule
- d. Descending portion of the collecting duct

17. The presence of ADH (antidiuretic hormone) causes an individual to excrete

- a. Sugars
- b. Less water
- c. More water
- d. Both a and c are correct

18. Kidneys return water and small solutes to blood by

- a. Filtration
- b. Reabsorption
- c. Secretion
- d. Both a and c
- e. All return water and solutes to the blood

19. The function of erythropoietin is

- a. Reabsorption of sodium ions
- b. Excretion of potassium ions
- c. Stimulation of red blood cell production
- d. Reabsorption of water
- e. The raising of blood pressure

20. _____ enhances sodium reabsorption.

- a. ADH
- b. Renin
- c. Aldosterone
- d. Erythropoietin
- e. Creatine

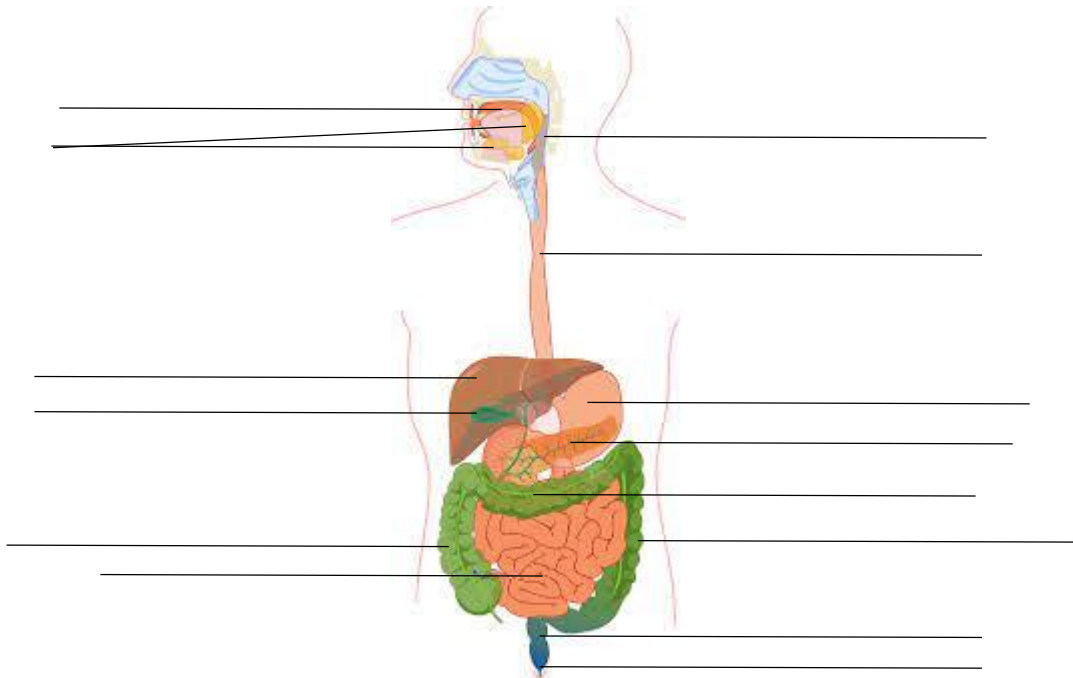
21. Water and small solutes enter nephrons during

- a. Filtration
- b. Reabsorption
- c. Secretion
- d. Both a and b
- e. Both a and c

22. Kidneys help regulate blood pH by all of the following except
- Returning bicarbonate ions to the blood during tubular reabsorption
 - Regulating water volume to increase or decrease the hydrogen ions in urine
 - Generating new bicarbonate ions when the cells of the proximal convoluted tubes metabolize glutamine
 - Removing excess hydrogen ions from the blood during tubular secretion

Part 2. Labeling, Fill-Ins, and Short Answer

1. Label the diagram with the major organs of the digestive tract and accessory organs. Use the following terms: anus, ascending colon, descending colon, esophagus, gall bladder, liver, oral cavity, pancreas, pharynx, Rectum, Salivary glands, small intestines, stomach, transverse colon.



2. A. Which organs from the list in question 1 are major organs of the digestive tract?

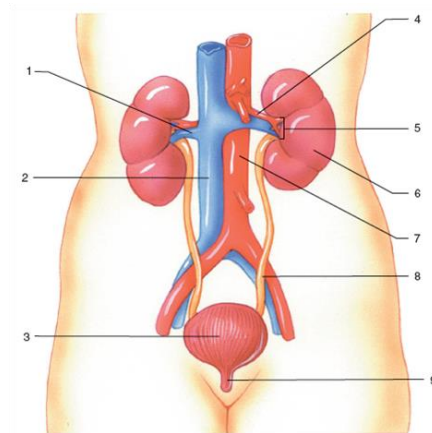
B. Which are the accessory organs of digestion?

3. Match the digestive system parts and functions

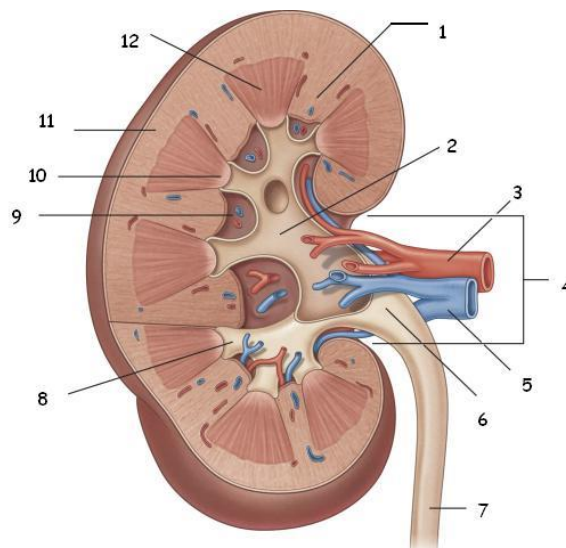
- _____ liver
- _____ Small intestines
- _____ salivary glands
- _____ stomach
- _____ large intestines

- a. Secretes substances that moisten food, start starch digestion
- b. Where protein digestion begins
- c. Where water is reabsorbed
- d. Where most digestion is completed
- e. Receives blood carrying absorbed nutrients

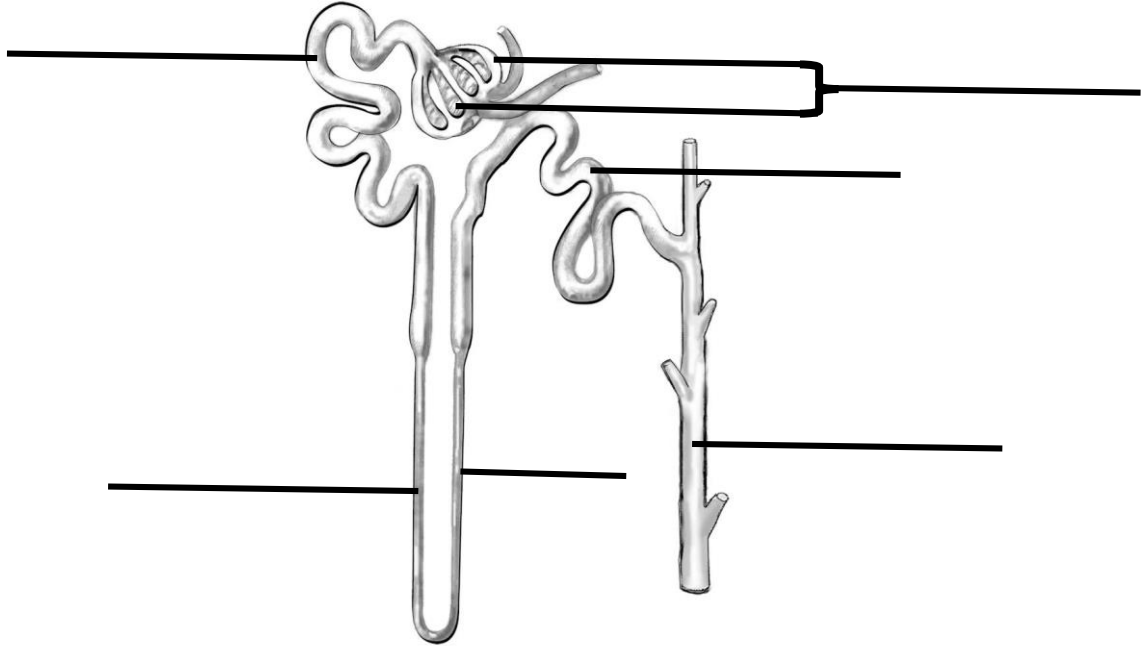
4. Label the major organs and structures of the urinary system and major blood vessels associated with the kidneys using the following terms: Abdominal aorta, inferior vena cava, Kidney, renal artery, renal vein, ureter, urethra, urinary bladder.



5. Label the kidney with the following parts of the kidney: renal pelvis, renal cortex, renal medulla, renal pyramid, renal column, renal papilla, minor calyx, major calyx, ureter, renal artery, renal vein.



6. Label the structures of the nephron. Use the following terms: Glomerular (Bowman's) capsule, distal convoluted tubule, glomerulus, Renal corpuscle, proximal convoluted tubule, descending limb of the loop of the nephron (Henle), ascending limb of the loop of the nephron (Henle). Label the collecting duct (not part of the nephron).



7. List the 4 layers of the wall of the digestive tract from lumen outward.
8. Physical breaking of food into smaller pieces is known as _____ digestion.
9. Some _____ secrete hydrochloric acid (HCl) and some secrete intrinsic factor
10. Breaking of chemical bonds so that complex molecules are broken into smaller subunits is known as _____ digestion.
11. The _____ begins mechanical digestion, begins chemical digestion, monitors food quality, and prepares (moistens and manipulates) food for swallowing.
12. The nonliving portion of the tooth that covers the crown is the _____.
13. The _____ is the passageway shared by respiratory and digestive systems.
14. The _____ is the muscular tube that transports food from pharynx to stomach.
15. The _____ is J-shaped expandable sac with band of circular muscle (sphincter) guards opening at each end, and its wall has three layers of smooth muscle.
16. The three regions of the small intestines in order from stomach to cecum are: _____, _____, and _____.
17. The three structures that increase the surface area for absorption by the small intestines are: _____, _____, and _____.
18. Carbohydrate digestion occurs in the _____ and _____.
19. Protein digestion occurs in the _____ and _____.
20. Lipid digestion occurs in the _____.
21. What is/are the end products of digestion for each of the following macromolecules:
- Polysaccharide starch _____
 - Proteins _____

c. Fats _____

d. Nucleic Acids _____

22. The four regions of the large intestines are _____, _____, _____, and _____.

23. Contraction of smooth muscle in the wall of the organs of the digestive tract that moves material through the tract is known as _____.

24. The largest internal organ is the _____.

25. The three enzymes produced by the pancreas which are released into the pancreatic duct are: _____, _____, and _____.

26. The 3 organs that eliminate nonsolids wastes are _____, _____, and _____.

27. _____ transport urine from kidneys to bladder.

28. _____ forms a passageway for urine stored in the urinary bladder to exit the body.

29. The 3 functions performed by the nephron are _____, _____, and _____.

30. Briefly describe each of the 3 functions of the nephron from question 29. Where does each occur?

Fill-in the information in the following table.

Function of the nephron	Briefly describe function	Occurs

31. The three hormones that play important roles in adjusting kidney function are: _____, _____, and _____.