Chapter 01: Introducing the Human Body
Solomon: Introduction to Human Anatomy and Physiology, 4th Edition

MULTIPLE CHOICE

1. _____ is the science that studies body function, that is, how the body works.
   a. Anatomy
   b. Physiology
   c. Homeostasis
   d. Metabolism

   ANS: B

2. _____ is a way of thinking and a method of investigating the world in a systematic manner.
   a. Observation
   b. Experimentation
   c. Science
   d. Research

   ANS: C

3. All matter is composed of _____.
   a. chemical elements
   b. chemical compounds
   c. cells
   d. tissues

   ANS: A

4. Atoms and molecules associate in specific ways to form _____, the next highest level of organization.
   a. organ systems
   b. tissue
   c. organs
   d. cells

   ANS: D

5. A(n) _____ is a group of closely associated cells that work together to perform specific functions.
   a. cell
   b. organ
   c. molecule
   d. tissue

   ANS: D

6. _____ are electrically charged atoms or groups of atoms.
   a. Compounds
   b. Ions
   c. Lipids

d. Enzymes

ANS: B

7. _____ are sugars and starches that are used by the body as fuel molecules (that store energy).
   a. Carbohydrates
   b. Lipids
   c. Proteins
   d. Enzymes

   ANS: A

8. Proteins are large, complex molecules composed of subunits called _____.
   a. nucleic acids
   b. ribonucleic acids
   c. amino acids
   d. deoxyribonucleic acids

   ANS: C

9. _____ is a nucleic acid that contains genetic information that is coded in specific sequences of its component nucleotides.
   a. RNA
   b. DNA
   c. ATP
   d. Amino acid

   ANS: B

10. All the chemical processes that take place within the body are referred to as its _____.
    a. catabolism
    b. metabolism
    c. anabolism
    d. energy

    ANS: B

11. _____ is the building, or synthetic, phase of metabolism.
    a. ATP
    b. Homeostasis
    c. Anabolism
    d. Catabolism

    ANS: C

12. The body regulates metabolic activities to maintain _____, the appropriate internal environment, or steady state.
    a. homeostasis
    b. environment
    c. temperature
    d. ATP

ANS: A

13. _____ activates homeostatic mechanisms that return the body to its steady state.
    a. Anabolism
    b. Cellular respiration
    c. Stress
    d. ATP

    ANS: C

14. Two structures that characterize humans as vertebrates are the _____, or brain case, and the backbone, or _____ column.
    a. cephalic; caudal
    b. cranium; caudal
    c. cranium; vertebral
    d. cephalic; vertebral

    ANS: C

15. In a positive feedback system, _____.
    a. a change in a condition that varies from the steady state sets off events that intensify the change
    b. a stressor inhibits a response
    c. a change in a condition that varies from the steady state triggers an opposite response
    d. homeostasis is maintained by a variable stressor

    ANS: A

16. The term *caudal* is sometimes used instead of the word _____.
    a. inferior
    b. superior
    c. superficial
    d. anatomical

    ANS: A

17. When a structure is closer to the body midline or point of attachment to the trunk, it is described as _____.
    a. distal
    b. medial
    c. proximal
    d. anterior

    ANS: C

18. The _____ plane divides the body into superior and inferior parts.
    a. sagittal
    b. frontal
    c. transverse
    d. axial

    ANS: C

19. The term *costal* refers to the _____.
    a. neck
    b. wrist
    c. groin
    d. ribs

    ANS: D

20. The heart is surrounded by the _____ cavity.
    a. pericardial
    b. pleural
    c. abdominal
    d. pelvic

    ANS: A

21. _____ is the science of body structure.
    a. Physiology
    b. Anatomy
    c. Atoms
    d. Biology

    ANS: B

22. An _____ is the smallest amount of a chemical element that has the characteristic properties of that element.
    a. ion
    b. atom
    c. organelle
    d. electron

    ANS: B

23. A(n) _____ is an electrically charged atom or group of atoms.
    a. chemical compound
    b. protein
    c. ion
    d. element

    ANS: C

24. Each cell consists of specialized cell structures called _____.
    a. organelles
    b. molecules
    c. atoms
    d. electrons

    ANS: A

25. Tissues are organized into _____, such as the brain, stomach, or heart.
    a. organisms
    b. body systems

c. organs
d. organelles

ANS: C

26. _____ compounds are large, complex compounds containing carbon.
a. Organic
b. Inorganic
c. Complex
d. Organ

ANS: A

27. _____ are complex organic compounds composed of chemically linked amino acid subunits.
a. Nucleic acids
b. Inorganic compounds
c. Sugars
d. Proteins

ANS: D

28. _____ is a nucleic acid that functions mainly in the expression of the cell's genetic information for the manufacturing of proteins.
a. DNA
b. ATP
c. Glucose
d. RNA

ANS: D

29. The breaking-down phase of metabolism that provides the energy needed to carry on activities necessary for life is _____.
a. catabolism
b. anabolism
c. cannibalism
d. energy

ANS: A

30. As the energy stored in nutrients is released, it is packaged within special energy-storage molecules called _____.
a. DNA
b. ATP
c. ADP
d. RNA

ANS: B

31. _____ are self-regulating control systems that maintain an appropriate internal body environment.
a. Stressors
b. Homeostatic mechanisms

c. Organ systems
d. Organelles

ANS: B

32. The body consists of right and left halves that are mirror images; it has _____.
a. positive feedback
b. bilateral symmetry
c. body axis
d. vertical column

ANS: B

33. When the body is standing erect, eyes looking forward, arms at the sides, and the palms and toes directed forward, it is said to be in the _____ position.
a. physiological
b. front
c. anatomical
d. standing

ANS: C

34. The terms _____ and *cranial* are sometimes used instead of the word *superior*.
a. cephalic
b. caudal
c. ventral
d. dorsal

ANS: A

35. Structures located toward the surface of the body, such as blood vessels in the skin, are considered _____.
a. sagittal
b. inferior
c. deep
d. superficial

ANS: D

36. The _____ plane divides the body into right and left halves.
a. midsagittal
b. transverse
c. sagittal
d. frontal

ANS: C

37. The term _____ refers to the thigh, or part of the lower extremity between the hip and the knee.
a. frontal
b. popliteal
c. femoral
d. tarsal

ANS: C

38. The region of the lower back and side between the lowest rib and the pelvis is the _____ region.
    a. lumbar
    b. cervical
    c. thoracic
    d. plantar

    ANS: A

39. The area between the anus and the pubic arch includes the _____ region.
    a. perineal
    b. pectoral
    c. plantar
    d. tarsal

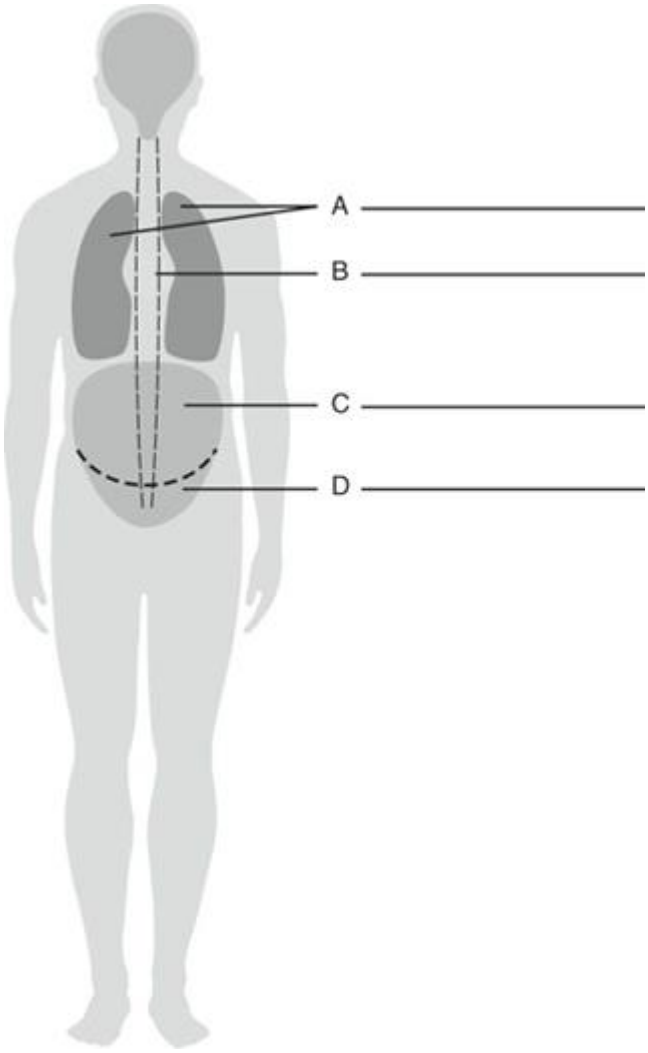
    ANS: A

40. The ventral cavity is subdivided into the _____.
    a. cranial cavity and vertebral canal
    b. abdominal cavity and pelvic cavity
    c. thoracic cavity and abdominopelvic cavity
    d. vertebral cavity and pleural cavity

    ANS: C

MATCHING

Fill in the correct labels for the following figure using the word bank below.

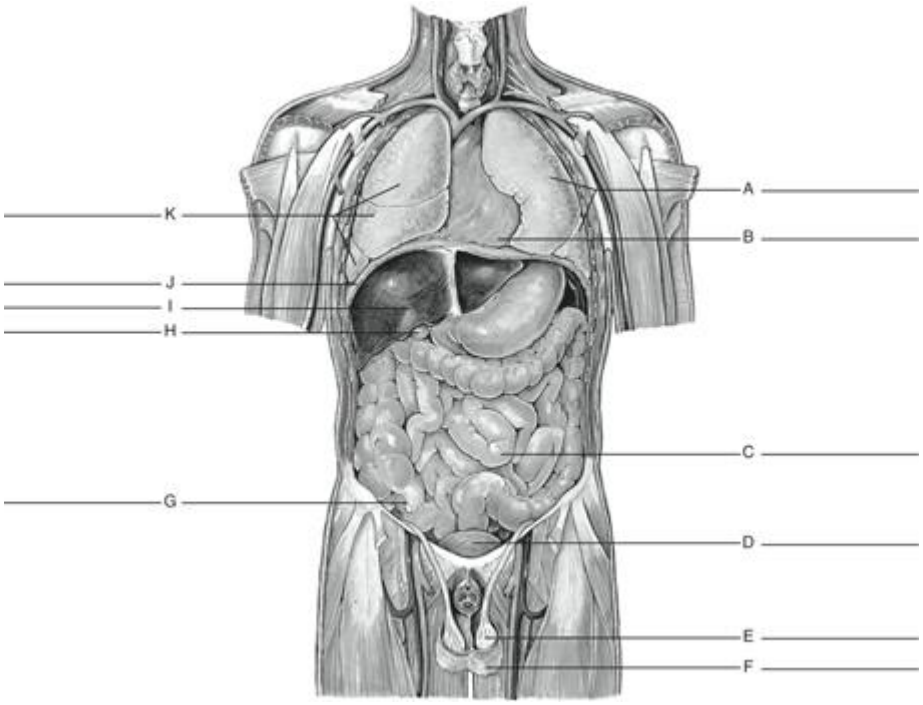


a. Abdominal cavity
b. Pleural sac
c. Pelvic cavity
d. Pericardial cavity

1. A _____
2. B _____
3. C _____
4. D _____

1. ANS: B
2. ANS: D
3. ANS: A
4. ANS: C

Fill in the correct labels for the following figure using the word bank below.



a. Small intestine
b. Scrotum
c. Liver
d. Gallbladder
e. Diaphragm
f. Pericardial sac containing heart
g. Right lung
h. Left lung
i. Appendix
j. Testis
k. Urinary bladder

5. A _____
6. B _____
7. C _____
8. D _____
9. E _____
10. F _____
11. G _____
12. H _____
13. I _____
14. J _____
15. K _____

5. ANS: H
6. ANS: F
7. ANS: A
8. ANS: K
9. ANS: J

10. ANS: B
11. ANS: I
12. ANS: D
13. ANS: C
14. ANS: E
15. ANS: G

OTHER

1. Why is it important to view the body as a whole?

   ANS:
   It is important to view the body as a whole because all organ systems are integrated and dependent upon each other. Each cell, tissue, and organ relies on other body parts for oxygen, nutrition, regulation, repair, waste disposal, and protection.