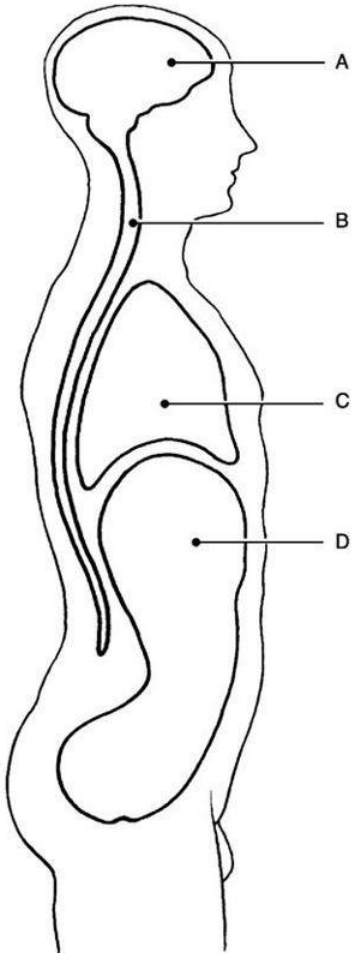


# **Test Bank for Marieb Marieb Human Anatomy and Physiology 12th Hoehn**

**Chapter 1 The Human Body: An Orientation**

**1.1 Matching Questions**



**Figure 1.1**

*Using Figure 1.1, match the following cavities:*

1) Thoracic cavity.

Answer: C

Section: 1.6

Learning Outcome: 1.12

Global LO: G3

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

2) Cranial cavity.

Answer: A

Section: 1.6

Learning Outcome: 1.12

Global LO: G3

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

3) Abdominal cavity.

Answer: D

Section: 1.6

Learning Outcome: 1.12

Global LO: G3

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

4) Vertebral cavity.

Answer: B

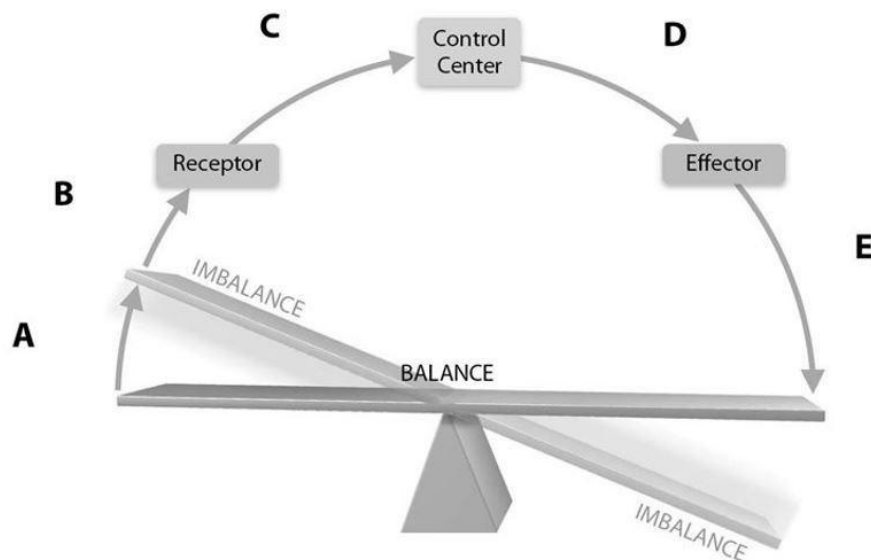
Section: 1.6

Learning Outcome: 1.12

Global LO: G3

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding



**Figure 1.2**

*Using Figure 1.2, match the following descriptions to the most appropriate letter on the diagram:*

5) Information about body temperature is sent through afferent pathways to the brain.

Answer: C

Section: 1.4

Learning Outcome: 1.7, 1.8

Global LO: G2, G3

HAPS LO: HAPS3

Bloom's: 3-4: Applying/Analyzing

6) Free nerve endings in the skin detect changes in skin temperature (getting warmer).

Answer: B

Section: 1.4

Learning Outcome: 1.7, 1.8

Global LO: G2, G3

HAPS LO: HAPS3

Bloom's: 3-4: Applying/Analyzing

7) Appropriate response information is sent through efferent pathways.

Answer: D

Section: 1.4

Learning Outcome: 1.7, 1.8

Global LO: G2, G3

HAPS LO: HAPS3

Bloom's: 3-4: Applying/Analyzing

8) A change in the temperature of the external environment (getting warmer).

Answer: A

Section: 1.4

Learning Outcome: 1.7, 1.8

Global LO: G2, G3

HAPS LO: HAPS3

Bloom's: 3-4: Applying/Analyzing

9) Sweat glands are stimulated as well as blood being distributed to the skin to allow cooling of the body to return the body's temperature to a physiological level.

Answer: E

Section: 1.4

Learning Outcome: 1.7, 1.8

Global LO: G2, G3

HAPS LO: HAPS3

Bloom's: 3-4: Applying/Analyzing

*Match the following systems to their functions:*

A) Lymphatic

B) Skeletal

C) Nervous

D) Muscular

10) Provides the force to move bones about their joints.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

11) Responds to environmental changes by transmitting appropriate electrical impulses.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

12) Provides a ridged framework to support the body and stores minerals.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

13) Picks up fluid leaked from blood vessels and houses white blood cells.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

Answers: 10) D 11) C 12) B 13) A

*Match the following systems to their functions:*

A) Immune

B) Cardiovascular

C) Endocrine

D) Urinary

14) Controls the body with chemical molecules called hormones.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

15) Delivers oxygen and nutrients to the tissues.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

16) A functional organ system which provides a means of protecting us from foreign invaders.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

17) Eliminates nitrogenous wastes from the body and regulates acid-base balance of the blood.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

Answers: 14) C 15) B 16) A 17) D

*Match the following examples of feedback mechanisms:*

A) Positive feedback

B) Negative feedback

18) Used for changes in blood glucose levels.

Section: 1.4

Learning Outcome: 1.7, 1.8

Global LO: G2, G3

HAPS LO: HAPS3, HAPS4

Bloom's: 1-2: Remembering/Understanding

19) Used for changes in blood pressure.

Section: 1.4

Learning Outcome: 1.7, 1.8

Global LO: G2, G3

HAPS LO: HAPS3, HAPS4

Bloom's: 1-2: Remembering/Understanding

20) Used when activating the digestive system before an upcoming meal.

Section: 1.4

Learning Outcome: 1.7, 1.8

Global LO: G2, G3

HAPS LO: HAPS3, HAPS4

Bloom's: 1-2: Remembering/Understanding

21) Used for childbirth.

Section: 1.4

Learning Outcome: 1.7, 1.8

Global LO: G2, G3

HAPS LO: HAPS3, HAPS4

Bloom's: 1-2: Remembering/Understanding

Answers: 18) B 19) B 20) A 21) A

*Match the following systems and organs:*

- A) Digestive
- B) Respiratory
- C) Reproductive
- D) Urinary
- E) Endocrine

22) Uterus, ovaries, mammary glands.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

23) Trachea, bronchi, alveoli.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

24) Adrenal glands, pancreas, pituitary.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

25) Esophagus, large intestine, rectum.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

26) Kidneys, bladder, ureters.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

Answers: 22) C 23) B 24) E 25) A 26) D

*Match the following cavities and organs:*

- A) Abdominal
- B) Pelvic

- C) Thoracic
- D) Cranial

27) Stomach.

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

28) Heart.

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

29) Uterus.

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

30) Brain.

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

31) Lungs.

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

Answers: 27) A 28) C 29) B 30) D 31) C

*Match the following regional terms and common terms:*

- A) Brachial
- B) Thoracic
- C) Patellar
- D) Cephalic
- E) Gluteal

32) Arm.

Section: 1.5  
Learning Outcome: 1.11  
Global LO: G7  
HAPS LO: HAPS1  
Bloom's: 1-2: Remembering/Understanding

33)Buttock.  
Section: 1.5  
Learning Outcome: 1.11  
Global LO: G7  
HAPS LO: HAPS1  
Bloom's: 1-2: Remembering/Understanding

34)Head.  
Section: 1.5  
Learning Outcome: 1.11  
Global LO: G7  
HAPS LO: HAPS1  
Bloom's: 1-2: Remembering/Understanding

35)Knee (anterior aspect).  
Section: 1.5  
Learning Outcome: 1.11  
Global LO: G7  
HAPS LO: HAPS1  
Bloom's: 1-2: Remembering/Understanding

36)Chest.  
Section: 1.5  
Learning Outcome: 1.11  
Global LO: G7  
HAPS LO: HAPS1  
Bloom's: 1-2: Remembering/Understanding

Answers: 32) A 33) E 34) D 35) C 36) B

*Match the regional/directional terms and examples:*

- A) Anterior
- B) Medial
- C) Distal
- D) Proximal
- E) Lateral

37)The bridge of the nose is \_\_\_\_\_ to the left eye.  
Section: 1.5  
Learning Outcome: 1.11  
Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

38)The upper arm is \_\_\_\_\_ to the forearm.

Section: 1.5

Learning Outcome: 1.11

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

39)The lungs are \_\_\_\_\_ to the heart.

Section: 1.5

Learning Outcome: 1.11

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

40)The fingers are \_\_\_\_\_ to the wrist.

Section: 1.5

Learning Outcome: 1.11

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

41)The stomach is \_\_\_\_\_ to the spine.

Section: 1.5

Learning Outcome: 1.11

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

Answers: 37) B 38) D 39) E 40) C 41) A

## 1.2 True/False Questions

- 1) Positive feedback mechanisms tend to enhance the original stimulus so that the response is accelerated.

Answer: TRUE

Section: 1.4

Learning Outcome: 1.8

Global LO: G7

HAPS LO: HAPS1, HAPS4

Bloom's: 3-4: Applying/Analyzing

- 2) Digital Subtraction Angiography (DSA) imaging is most useful in discovering obstructed blood supplies in organs and tissues.

Answer: TRUE

Section: 1.5

Learning Outcome: 1.8

Global LO: G9

HAPS LO: HAPS2, HAPS7

Bloom's: 3-4: Applying/Analyzing

- 3) The knee is proximal to the hip.

Answer: FALSE

Section: 1.5

Learning Outcome: 1.11

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

- 4) The part of the serous membrane that lines the peritoneal cavity wall is called visceral peritoneum.

Answer: FALSE

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

- 5) A major function of serous membranes is to decrease friction.

Answer: TRUE

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

- 6) The right hypochondriac region contains the majority of the stomach.

Answer: FALSE

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

7) Lungs carry out an excretory function.

Answer: TRUE

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

8) Embryology concerns the structural changes that occur in an individual from conception through old age.

Answer: FALSE

Section: 1.1

Learning Outcome: 1.1

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

9) A tissue consists of groups of similar cells that have a common function.

Answer: TRUE

Section: 1.2

Learning Outcome: 1.3

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

10) It is important for any organism to maintain its boundaries, so that its internal environment remains distinct from the external environment surrounding it.

Answer: TRUE

Section: 1.3

Learning Outcome: 1.5

Global LO: G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

11) Without some sort of negative feedback mechanism, it would be impossible to keep our body chemistry in balance.

Answer: TRUE

Section: 1.4

Learning Outcome: 1.8

Global LO: G7

HAPS LO: HAPS4

Bloom's: 3-4: Applying/Analyzing

12) Responsiveness or irritability is the ability to sense changes in the environment and then respond to them.

Answer: TRUE

Section: 1.3

Learning Outcome: 1.5

Global LO: G7

HAPS LO: HAPS4

Bloom's: 1-2: Remembering/Understanding

13) The epigastric region is superior to the umbilical region.

Answer: TRUE

Section: 1.6

Learning Outcome: 1.13

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

### 1.3 Multiple Choice Questions

1) Histology would be best defined as a study of \_\_\_\_\_.

- A) cells
- B) tissues
- C) cell chemistry
- D) the gross structures of the body

Answer: B

Section: 1.1

Learning Outcome: 1.1

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

2) The study of large body structures, visible to the naked eye, such as the heart is called \_\_\_\_\_ anatomy.

- A) microscopic
- B) gross
- C) developmental
- D) systemic

Answer: B

Section: 1.1

Learning Outcome: 1.1

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

3) Expiration (breathing out) is how the body removes excessive carbon dioxide from the blood. This is an example of \_\_\_\_\_.

- A) maintaining boundaries
- B) excretion of metabolic waste
- C) responsiveness
- D) metabolism

Answer: B

Section: 1.3

Learning Outcome: 1.5

Global LO: G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

4) Generally, what is the result of the negative feedback process?

- A) to control body movement
- B) to maintain homeostasis
- C) to keep the body's blood sugar level high
- D) to regulate excretion via the kidneys

Answer: B

Section: 1.4

Learning Outcome: 1.8

Global LO: G7

HAPS LO: HAPS1, HAPS4

Bloom's: 3-4: Applying/Analyzing

5) The coxal joint is most likely found in the \_\_\_\_\_ region of the body.

- A) hand
- B) groin
- C) foot
- D) hip

Answer: D

Section: 1.5

Learning Outcome: 1.11

Global LO: G7

HAPS LO: HAPS1, HAPS3

Bloom's: 3-4: Applying/Analyzing

6) A structure that is composed of two or more tissue types that work together to perform specific functions for the body is a(n) \_\_\_\_\_.

- A) complex tissue
- B) organ system
- C) organ
- D) complex cell

Answer: C

Section: 1.2

Learning Outcome: 1.3

Global LO: G7

HAPS LO: HAPS1, HAPS3

Bloom's: 1-2: Remembering/Understanding

7) The anatomical position is characterized by all of the following EXCEPT \_\_\_\_\_.

- A) body erect
- B) arms at sides
- C) palms turned posteriorly
- D) thumbs pointed laterally

Answer: C

Section: 1.5

Learning Outcome: 1.10a

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

8) A good example of a positive feedback mechanism would be \_\_\_\_\_.

- A) body temperature regulation
- B) regulating glucose levels in the blood
- C) enhancement of labor contractions
- D) blood calcium level regulation

Answer: C

Section: 1.4

Learning Outcome: 1.8

Global LO: G7

HAPS LO: HAPS1, HAPS4

Bloom's: 3-4: Applying/Analyzing

9) Which of the following describes a parasagittal plane?

- A) a transverse cut just above the knees
- B) two cuts dividing the body into left and right halves
- C) any sagittal plane except in the midline
- D) any cut dividing the body into anterior and posterior portions

Answer: C

Section: 1.5

Learning Outcome: 1.11

Global LO: G7

HAPS LO: HAPS1, HAPS3

Bloom's: 1-2: Remembering/Understanding

10) Which of the following organs or structures would be found in the left iliac region?

- A) appendix
- B) stomach
- C) liver
- D) intestines

Answer: D

Section: 1.6

Learning Outcome: 1.13

Global LO: G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

11) The parietal pleura would represent a serous membrane \_\_\_\_\_.

- A) covering individual lungs
- B) lining the thoracic cavity
- C) covering the heart
- D) lining the abdominal cavity

Answer: B

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

12) Which one of the following systems responds fastest to environmental stimuli?

- A) muscular
- B) lymphatic
- C) immune
- D) nervous

Answer: D

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

13) Choose the anatomical topic and definition that is NOT correctly matched.

- A) Gross anatomy: study of structures visible to the eye.
- B) Microscopic anatomy: study of structures too small to be seen by the naked eye.
- C) Cytology: study of the structures in a particular region.
- D) Embryology: study of the changes in an individual from conception to birth.

Answer: C

Section: 1.1

Learning Outcome: 1.1

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

14) Homeostasis is the condition in which the body maintains \_\_\_\_\_.

- A) the lowest possible energy usage
- B) a relatively stable internal environment, within limits
- C) a static state with no deviation from preset points
- D) a dynamic state within an unlimited range, depending on circumstances

Answer: B

Section: 1.4

Learning Outcome: 1.7

Global LO: G7

HAPS LO: HAPS1, HAPS4

Bloom's: 1-2: Remembering/Understanding

15) In which body cavities are the lungs located?

- A) pleural, ventral, and thoracic
- B) mediastinal, thoracic, and ventral
- C) pleural, dorsal, and abdominal
- D) pericardial, ventral, and thoracic

Answer: A

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

16) Choose the following statement that is NOT completely correct regarding serous membranes.

- A) Serosa are very thin, double-layered structures.
- B) Serous membranes are divided into parietal and visceral membranes with a virtual space between the two.
- C) Visceral pericardium covers the outer surface of the heart, and parietal pericardium lines the internal walls of the heart.

D) Serous membranes secrete a watery lubricating fluid.

Answer: C

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

17) Place the following in correct sequence from simplest to most complex:

1. molecules
2. atoms
3. tissues
4. cells
5. organs

A) 1-2-3-4-5

B) 2-1-4-3-5

C) 2-1-3-4-5

D) 1-2-4-3-5

Answer: B

Section: 1.2

Learning Outcome: 1.3

Global LO: G7

HAPS LO: HAPS1, HAPS3

Bloom's: 1-2: Remembering/Understanding

18) Which of the following imaging devices would best localize a tumor in a person's brain?

- A) X-ray
- B) DSA
- C) PET
- D) MRI

Answer: D

Section: 1.5

Learning Outcome: 1.12

Global LO: G9

HAPS LO: HAPS2, HAPS7

Bloom's: 3-4: Applying/Analyzing

19) Which of these is NOT part of the dorsal cavity?

- A) cranial cavity
- B) thoracic cavity
- C) spinal cord
- D) vertebral cavity

Answer: B

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

20) In which quadrant of the abdominopelvic cavity is the stomach located?

- A) right upper quadrant
- B) right lower quadrant
- C) left upper quadrant
- D) left lower quadrant

Answer: C

Section: 1.6

Learning Outcome: 1.13

Global LO: G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

21) Which of the following statements is the most correct regarding homeostatic imbalance?

- A) It is considered the cause of most diseases.
- B) The internal environment is becoming more stable.
- C) Positive feedback mechanisms are overwhelmed.
- D) Negative feedback mechanisms are functioning normally.

Answer: A

Section: 1.4

Learning Outcome: 1.8

Global LO: G7

HAPS LO: HAPS1, HAPS4

Bloom's: 1-2: Remembering/Understanding

22) The term hallux refers to the \_\_\_\_\_.

- A) great (big) toe
- B) calf
- C) fingers
- D) thumb

Answer: A

Section: 1.5

Learning Outcome: 1.11

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

23) The dorsal body cavity is the site of which of the following?

- A) intestines
- B) brain
- C) lungs
- D) liver

Answer: B

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

24) Select the most correct statement.

- A) The immune system is closely associated with the lymphatic system.
- B) Organ systems operate independently of each other to maintain life.
- C) The endocrine system is not a true structural organ system.
- D) Organ systems can be composed of cells or tissues, but not both.

Answer: A

Section: 1.2

Learning Outcome: 1.3

Global LO: G7

HAPS LO: HAPS1, HAPS2

Bloom's: 1-2: Remembering/Understanding

25) One of the functional characteristics of life is excitability or responsiveness. This refers to \_\_\_\_\_.

- A) indigestible food residues stimulating the excretory system
- B) sensing changes in the environment and then reacting or responding to them
- C) the nervous system causing all living things to sometimes experience anger
- D) the necessity for all organisms to reproduce

Answer: B

Section: 1.3

Learning Outcome: 1.5

Global LO: G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

26) Which of the following are survival needs of the body?

- A) nutrients, water, movement, and reproduction
- B) nutrients, water, growth, and reproduction
- C) water, atmospheric pressure, growth, and movement
- D) nutrients, water, atmospheric pressure, and oxygen

Answer: D

Section: 1.3

Learning Outcome: 1.5

Global LO: G7

HAPS LO: HAPS4

Bloom's: 1-2: Remembering/Understanding

27) What is a vertical section through the body, dividing it into left and right, called?

- A) frontal
- B) regional
- C) sagittal
- D) transverse

Answer: C

Section: 1.5

Learning Outcome: 1.11

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

28) What is a vertical section through the body, dividing it into anterior and posterior regions called?

- A) frontal
- B) median
- C) sagittal
- D) transverse

Answer: A

Section: 1.5

Learning Outcome: 1.11

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

29) The body cavities that protect the nervous system are located in the \_\_\_\_\_ cavity.

- A) cranial
- B) dorsal
- C) vertebral
- D) thoracic
- E) ventral

Answer: B

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

30) Which of the following describes the operation of the heart and blood vessels?

- A) systemic anatomy
- B) cardiovascular anatomy
- C) systemic physiology
- D) cardiovascular physiology

Answer: D

Section: 1.1

Learning Outcome: 1.1

Global LO: G7

HAPS LO: HAPS1, HAPS3

Bloom's: 3-4: Applying/Analyzing

31) It is wise to study anatomy alongside with physiology because \_\_\_\_\_.

- A) it makes for more efficient use of students' and teachers' time
- B) to understand anatomy requires complete understanding of physiology
- C) physiology is only explainable in terms of the underlying anatomy
- D) anatomy and physiology are practically the same thing

Answer: C

Section: 1.1

Learning Outcome: 1.2

Global LO: G2, G7

HAPS LO: HAPS8

Bloom's: 3-4: Applying/Analyzing

32) The study of anatomy and physiology assumes and describes a healthy body. Select the description below that does NOT explain why this approach is useful.

- A) A healthy body provides a common standard to compare to.
- B) Study of a healthy body is less intimidating and more familiar to new students.
- C) A healthy body establishes what "normal" is.
- D) Study of a healthy body provides a foundation for a more complete understanding of all human bodies.

Answer: B

Section: 1.1

Learning Outcome: 1.2

Global LO: G2, G7

HAPS LO: HAPS5

Bloom's: 5-6: Evaluating/Creating

33) One of the descriptions below is from the perspective of anatomical study, the rest are from a physiological perspective. Select the description below that comes from an anatomical perspective.

- A) The innermost lining of the lungs is composed primarily of a thin tissue called simple squamous epithelium.
- B) The extremely thin tissue (simple squamous epithelium) of the lungs allows for the quick diffusion of respiratory gases into and out of the body.
- C) The direction of blood flow through the heart is directed by one way valves.
- D) The cell-to-cell connections between heart (cardiac) muscle cells are strong. They hold the tissue together for a life time of forceful contractions.

Answer: A

Section: 1.1

Learning Outcome: 1.1

Global LO: G2, G7

HAPS LO: HAPS1, HAPS3, HAPS8

Bloom's: 3-4: Applying/Analyzing

34) One of the descriptions below is from the perspective of physiological study, the rest are from an anatomical perspective. Select the description below that comes from physiological perspective.

- A) The skull is formed by 22 facial and cranial bones.
- B) The chambers of the heart and blood vessels leading to and from the heart are separated by valves composed of fibrous connective tissue.
- C) The pancreas lies deep to the stomach within the abdominal cavity.
- D) The contraction of smooth muscle in blood vessels (vasoconstriction) can reduce the flow of blood through the vessel.

Answer: D

Section: 1.1

Learning Outcome: 1.1

Global LO: G2, G7

HAPS LO: HAPS1, HAPS3, HAPS8

Bloom's: 3-4: Applying/Analyzing

35) Which of the following is the best explanation for why cells are considered the smallest units of living things.

- A) Cells cannot be seen with the naked eye and are considered microscopic.
- B) Cells are highly ordered and complex.
- C) Cells have the ability to reproduce identical copies of themselves in a process called mitosis.
- D) Cells are the simplest structure to fit all of the characteristics necessary to be considered alive.

Answer: D

Section: 1.2, 1.3

Learning Outcome: 1.3, 1.5

Global LO: G2

HAPS LO: HAPS1, HAPS3, HAPS8

Bloom's: 3-4: Applying/Analyzing

36) Prevention of water loss is a necessary function for life that would best fit in the category of \_\_\_\_\_.

- A) maintaining boundaries
- B) metabolism
- C) responsiveness
- D) excretion

Answer: A

Section: 1.3

Learning Outcome: 1.5

Global LO: G2

HAPS LO: HAPS1, HAPS4, HAPS7

Bloom's: 3-4: Applying/Analyzing

37) Anabolic reactions are chemical reactions of the body that build things, make them bigger or more complex. Catabolic reactions break things down making them smaller or less complex. If the rate of anabolic reaction in the body is much faster than the rate of catabolic reactions, which of the following necessary life function will be accomplished?

- A) movement
- B) responsiveness
- C) growth
- D) digestion

Answer: C

Section: 1.3

Learning Outcome: 1.5

Global LO: G2

HAPS LO: HAPS1, HAPS3, HAPS8

Bloom's: 3-4: Applying/Analyzing

38)Anatomical position is important because \_\_\_\_\_.

- A) it is the position most comfortable to hospital patients
- B) it provides the greatest circulation to the extremities
- C) it allows a common point of reference for body position to help communicate anatomical relationships
- D) it allows diagrams within textbooks to display a greater surface area of the body with one simple diagram

Answer: C

Section: 1.5

Learning Outcome: 1.10a

Global LO: G2, G7

HAPS LO: HAPS3, HAPS7, HAPS13

Bloom's: 3-4: Applying/Analyzing

39)Positive feedback differs from negative feedback because \_\_\_\_\_.

- A) positive feedback is generally beneficial while negative feedback is typically harmful
- B) positive feedback tends to enhance the triggering stimulus while negative feedback tends to return the body to a homeostatic balance or "ideal" level
- C) positive feedback is critical to health while negative feedback serves only to alert us to potential health threats
- D) positive feedback provides moment-to-moment wellbeing while negative feedback causes a cascade effect

Answer: B

Section: 1.4

Learning Outcome: 1.8

Global LO: G2, G7

HAPS LO: HAPS1, HAPS4

Bloom's: 3-4: Applying/Analyzing

40)When a baby suckles at its mother's breast the stimulus at the breast is sent to the mother's brain (a region called the hypothalamus). The brain responds by releasing hormones to stimulate the production and the ejection of milk from the breast. This helps the newborn to receive nourishment and encourages more suckling. This example is best described as a \_\_\_\_\_.

- A) negative feedback
- B) loss of homeostasis
- C) necessary life function
- D) positive feedback

Answer: D

Section: 1.4

Learning Outcome: 1.8

Global LO: G2, G7

HAPS LO: HAPS1, HAPS4, HAPS7

Bloom's: 3-4: Applying/Analyzing

41)Some of the nerve endings in the skin are sensitive to changes in temperature. They

are part of a negative feedback mechanism regulating body temperature. These nerve endings represent a(n) \_\_\_\_\_ in the negative feedback mechanism.

- A) homeostatic balance or "ideal" value
- B) effector
- C) control center
- D) receptor

Answer: D

Section: 1.4

Learning Outcome: 1.8

Global LO: G2, G7

HAPS LO: HAPS1, HAPS4

Bloom's: 3-4: Applying/Analyzing

42) You are asked to take a person's heart rate at the popliteal pulse point. You will look for this pulse \_\_\_\_\_.

- A) on the posterior side of the knee
- B) at the posterior side of the wrist
- C) in the distal end of the lower leg
- D) on the palmar side of the hand

Answer: A

Section: 1.5

Learning Outcome: 1.11

Global LO: G2, G7

HAPS LO: HAPS1, HAPS7

Bloom's: 3-4: Applying/Analyzing

43) You are told to take an axillary temperature on a small child. You will place the thermometer \_\_\_\_\_.

- A) under the tongue
- B) in the armpit
- C) in the rectum
- D) on the forehead

Answer: B

Section: 1.5

Learning Outcome: 1.11

Global LO: G2, G7

HAPS LO: HAPS1, HAPS7

Bloom's: 3-4: Applying/Analyzing

44) You are asked to draw blood from the median cubital vein. You will search for this vein in the \_\_\_\_\_.

- A) hand
- B) anterior side of the elbow
- C) proximal arm
- D) lateral side of the foot

Answer: B

Section: 1.5

Learning Outcome: 1.11

Global LO: G2, G7

HAPS LO: HAPS1, HAPS7

Bloom's: 3-4: Applying/Analyzing

45) The thoracic cavity contains the \_\_\_\_\_. It is found \_\_\_\_\_ to the vertebral cavity.

- A) heart and lungs; anterior
- B) digestive viscera; inferior
- C) kidneys and spleen; deep
- D) stomach and liver; superficial

Answer: A

Section: 1.5

Learning Outcome: 1.11

Global LO: G2

HAPS LO: HAPS1

Bloom's: 3-4: Applying/Analyzing

46) An individual making sure to take in as much fluid as they were losing through sweat and urination would be an application of \_\_\_\_\_.

- A) body temperature regulation
- B) positive feedback
- C) the law of mass balance
- D) negative feedback

Answer: C

Section: 1.4

Learning Outcome: 1.8

Global LO: G7

HAPS LO: HAPS1, HAPS4

Bloom's: 3-4: Applying/Analyzing

#### 1.4 Short Answer Questions

1) Similar cells that have a common function are called \_\_\_\_\_.

Answer: tissues

Section: 1.2

Learning Outcome: 1.3

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

2) What does the "principle of complementarity of structures and function" mean?

Answer: Structure is specific to meet the needs of it's function.

Section: 1.1

Learning Outcome: 1.2

Global LO: G7

HAPS LO: HAPS3, HAPS8

Bloom's: 3-4: Applying/Analyzing

3) The term that describes the back of the elbow is \_\_\_\_\_.

Answer: olecranal

Section: 1.5

Learning Outcome: 1.11

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

4) The term that describes the neck region is \_\_\_\_\_.

Answer: cervical

Section: 1.5

Learning Outcome: 1.11

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

5) The heart is \_\_\_\_\_ to the lungs.

Answer: medial

Section: 1.5

Learning Outcome: 1.11

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

6) \_\_\_\_\_ is explained by chemical and physical principles and is concerned with the function of specific organs or organic systems.

Answer: Physiology

Section: 1.1

Learning Outcome: 1.1

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

7) What is a dynamic equilibrium of your internal environment termed?

Answer: homeostasis

Section: 1.4

Learning Outcome: 1.8

Global LO: G7

HAPS LO: HAPS4

Bloom's: 1-2: Remembering/Understanding

8) Which cavity contains the bladder, some reproductive organs, and the rectum?

Answer: pelvic

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

9) What is the serous membrane that covers the intestines called?

Answer: visceral peritoneum

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

10) What broad term covers all chemical reactions that occur within the body cells?

Answer: metabolism

Section: 1.3

Learning Outcome: 1.6

Global LO: G7

HAPS LO: HAPS1

Bloom's: 1-2: Remembering/Understanding

11) What is the function of the serous membranes?

Answer: They act to reduce friction and allow the organs to slide across cavity walls.

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

12) Can lungs carry out excretory functions? Explain your answer.

Answer: Yes, carbon dioxide is a metabolic waste the lungs excrete.

Section: 1.2, 1.3

Learning Outcome: 1.4

Global LO: G7

HAPS LO: HAPS3, HAPS8  
Bloom's: 3-4: Applying/Analyzing

13) Why is anatomical terminology necessary?

Answer: Anatomical terms are precise words that have limited usage, which prevents confusion when describing the location of body parts.

Section: 1.5

Learning Outcome: 1.11

Global LO: G8

HAPS LO: HAPS1, HAPS8

Bloom's: 3-4: Applying/Analyzing

14) \_\_\_\_\_ includes the activities promoted by the muscular system, such as running or swimming.

Answer: Movement

Section: 1.3

Learning Outcome: 1.5

Global LO: G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

15) What is the single most abundant chemical substance in the body?

Answer: water

Section: 1.3

Learning Outcome: 1.3

Global LO: G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

16) Why must a normal body temperature be maintained in order for chemical reactions to be continued at life-sustaining rates?

Answer: If body temperature is too low, chemical reactions slow and eventually stop. If body temperature is too high, chemical reactions speed up and body proteins lose their normal shape, resulting in loss of function.

Section: 1.3

Learning Outcome: 1.5

Global LO: G7

HAPS LO: HAPS3

Bloom's: 3-4: Applying/Analyzing

17) What is the pathway between the receptor and the control center in the reflex pathway called?

Answer: afferent pathway

Section: 1.4

Learning Outcome: 1.8

Global LO: G7

HAPS LO: HAPS3

Bloom's: 1-2: Remembering/Understanding

18)What type of homeostatic feedback reflex is the withdrawal reflex?

Answer: negative

Section: 1.4

Learning Outcome: 1.8

Global LO: G7

HAPS LO: HAPS4

Bloom's: 3-4: Applying/Analyzing

19)Why are the abdominopelvic cavity organs the most vulnerable to blunt deceleration in an automobile accident with seat belts?

Answer: The walls of the abdominal cavity are formed only by trunk muscles and are not reinforced by bone. The pelvic organs receive a somewhat greater degree of protection from the bony pelvis.

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS3, HAPS7

Bloom's: 3-4: Applying/Analyzing

20)What is the action of all of the negative feedback mechanisms of the body?

Answer: They provide a mechanism to maintain levels of substances within physiological limits.

Section: 1.4

Learning Outcome: 1.8

Global LO: G7

HAPS LO: HAPS4

Bloom's: 1-2: Remembering/Understanding

21)Which feedback mechanism causes the variable to deviate further and further from its original value or range?

Answer: positive feedback

Section: 1.4

Learning Outcome: 1.8

Global LO: G7

HAPS LO: HAPS4

Bloom's: 3-4: Applying/Analyzing

22)What can happen when the usual negative feedback mechanisms are overwhelmed and destructive positive feedback mechanisms take over?

Answer: Homeostatic imbalances increase our risk for disease processes and produce the changes we associate with aging.

Section: 1.4

Learning Outcome: 1.8

Global LO: G2

HAPS LO: HAPS4

Bloom's: 3-4: Applying/Analyzing

23)Which body system would be most affected by a lower than normal atmospheric

pressure?

Answer: respiratory system

Section: 1.2

Learning Outcome: 1.4

Global LO: G2

HAPS LO: HAPS6

Bloom's: 3-4: Applying/Analyzing

24) Describe the overlap in function between the cardiovascular system and respiratory system. In other words, describe how they work together.

Answer: The blood is provided a consistent supply of oxygen from the lungs while the circulatory system delivers carbon dioxide which will be removed from the body by the respiratory system.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3, HAPS8

Bloom's: 5-6: Evaluating/Creating

25) Describe the overlap in function between the muscular system and skeletal system. In other words, describe how they work together.

Answer: The skeleton provides the ridged frame work (levers) for muscles to attach to. Muscles provide the force to move the bones about the joints.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3, HAPS8

Bloom's: 5-6: Evaluating/Creating

26) The integumentary system helps to maintain a boundary between the internal and external environment. Give an example of something that is prevented entry to the body and an example of something prevented from escaping the body by the integumentary system.

Answer: The integumentary system prevents entry of pathogens (germs, viruses, bacteria) OR harmful chemicals. The integumentary system prevents water (body fluid) loss.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7

HAPS LO: HAPS3, HAPS8

Bloom's: 5-6: Evaluating/Creating

27) Describe the opposing ways that the muscular system and integumentary system act as effectors in the regulation of body temperature.

Answer: The integumentary system cools the body through sweat while the muscular system warms the body by shivering.

Section: 1.2

Learning Outcome: 1.4

Global LO: G2, G7  
HAPS LO: HAPS3, HAPS8  
Bloom's: 5-6: Evaluating/Creating

## 1.5 Clinical Questions

- 1) A small family was traveling in its van and had a minor accident. The children in the back seats were wearing lap belts, but still sustained numerous bruises about the abdomen, and had some internal organ injuries. Why is this area more vulnerable to damage than others?

Answer: The abdominal organs are the least protected in the body because they are not surrounded by a bony covering such as the ribs, pelvis, or cranium.

Section: 1.6

Learning Outcome: 1.12

Global LO: G7

HAPS LO: HAPS3, HAPS7

Bloom's: 3-4: Applying/Analyzing

- 2) Steve was injured in a football accident. X-ray examination showed a fracture underlying his left brachial deformity. What part of his body was injured?

Answer: His left upper arm

Section: 1.5

Learning Outcome: 1.11

Global LO: G7

HAPS LO: HAPS1, HAPS7

Bloom's: 3-4: Applying/Analyzing

- 3) Judy is 16 years old and collapses on the gym floor with severe pain in her chest wall every time she takes a deep breath. She is rushed by ambulance to the emergency room. Judy is diagnosed with pleurisy and is given an anti-inflammatory drug through the intravenous route. Explain why an anti-inflammatory drug would be prescribed for someone with pleurisy.

Answer: The pleural space contains a small amount of fluid that acts as a lubricant, allowing the pleurae to slide smoothly over each other as the lungs expand and contract. Pleurisy is an inflammation of the pleura around the lungs. When inflammation occurs in the pleural space, the pleurae do not slide smoothly and this causes severe pain that is more directly transmitted by the parietal than the visceral pleura.

Section: 1.6

Learning Outcome: 1.12

Global LO: G2

HAPS LO: HAPS7, HAPS8

Bloom's: 3-4: Applying/Analyzing

- 4) Sara is giving birth to her first child. She is concerned that her labor is taking longer than she thought it would. Why does giving birth usually take time for the contractions to proceed to the point when the child is born?

Answer: Childbirth is based on the increasing levels of oxytocin that cause the uterine contractions. Under positive feedback, oxytocin levels increase which results in increasing strong contractions by the upper uterus that will ultimately result in the birth of the child. But this positive feedback needs numerous contraction cycles to overcome the muscular resistance to stretching in the lower uterus in order for the head to pass.

Section: 1.4

Learning Outcome: 1.8  
Global LO: G2  
HAPS LO: HAPS7, HAPS8  
Bloom's: 3-4: Applying/Analyzing

5) The nurse charted: "Patient has an open wound located on lateral aspect of leg."  
Describe where the wound is located.

Answer: The wound is located on the outer side of the leg, the peroneal or fibular area.

Section: 1.5

Learning Outcome: 1.11  
Global LO: G7  
HAPS LO: HAPS1, HAPS7  
Bloom's: 3-4: Applying/Analyzing