MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) _______ is considered the oldest medical science.
   A) Embryology
   B) Physiology
   C) Cytology
   D) Biology
   E) Anatomy

2) Which of the following study methods are useful for anatomy and physiology courses?
   A) Read the lecture sections before class.
   B) Develop memorization skills.
   C) Do not procrastinate.
   D) Devote a block of time for study.
   E) All of the answers are correct.

3) Anatomy is to _______ as physiology is to _______.
   A) function; form
   B) structure; form
   C) form; structure
   D) growth; form
   E) structure; function

4) The analysis of the internal structure of individual cells is called _______.
   A) physiology.
   B) cytology.
   C) embryology.
   D) anatomy.
   E) histology.

5) The study of the general form and superficial markings of an organism is called _______.
   A) systemic
   B) gross
   C) regional
   D) surgical
   E) surface

6) The study of the superficial and internal features in a specific area of the body is called _______.
   A) radiographic
   B) regional
   C) pathological
   D) surface
   E) surgical
7) Anatomical features that change during illness are studied in ________ anatomy.
   A) pathological
   B) regional
   C) surface
   D) gross
   E) microscopic

8) The study of the first two months of development is termed
   A) histology.
   B) organology.
   C) pathology.
   D) embryology.
   E) cytology.

9) The study of the function of specific organ systems is called
   A) organ physiology.
   B) histology.
   C) pathological physiology.
   D) cell physiology.
   E) systemic physiology.

10) Cardiovascular function is an example of
    A) pathological physiology.
    B) histophysiology.
    C) physiological chemistry.
    D) organ physiology.
    E) systemic physiology.

11) The study of the liver is to gross anatomy as the study of a liver cell is to
    A) regional anatomy.
    B) systemic anatomy.
    C) physiology.
    D) radiographic anatomy.
    E) cytology.

12) Organ physiology is to ________ as gross anatomy is to ________.
    A) cell physiology; microscopic anatomy
    B) imbalance; microscopic anatomy
    C) equilibrium; macroscopic anatomy
    D) balance; equilibrium
    E) macroscopic anatomy; unbalance

13) Which of the following is arranged in correct order from the most complex to the simplest?
    A) molecular, cellular, tissue, organ, system, organism
    B) tissue, cellular, molecular, organ, system, organism
    C) organ, organism, molecular, cellular, tissue, system
    D) cellular, tissue, molecular, system, organ, organism
    E) organism, system, organ, tissue, cellular, molecular
14) Which organ system provides support, protection of soft tissue, mineral storage, and blood formation?
   A) endocrine  
   B) skeletal  
   C) muscular  
   D) nervous  
   E) integumentary

15) Which organ system transports nutrients, metabolic wastes, gases, and defense cells?
   A) digestive  
   B) cardiovascular  
   C) muscular  
   D) urinary  
   E) respiratory

16) Which organ system includes the spleen and the tonsils?
   A) nervous  
   B) lymphatic  
   C) endocrine  
   D) digestive  
   E) cardiovascular

17) The kidneys and ureters are organs of the _______ system.
   A) urinary  
   B) lymphatic  
   C) endocrine  
   D) respiratory  
   E) digestive

18) The pituitary gland and thyroid gland are organs of the _______ system.
   A) respiratory  
   B) lymphatic  
   C) digestive  
   D) cardiovascular  
   E) endocrine

19) Which organ system removes carbon dioxide from the bloodstream?
   A) cardiovascular  
   B) endocrine  
   C) digestive  
   D) lymphatic  
   E) respiratory

20) Lungs are to the respiratory system as the liver is to the _______ system.
   A) lymphatic  
   B) urinary  
   C) cardiovascular  
   D) nervous  
   E) digestive
21) Skin, hair, and nails are associated with the _______ system.
   A) muscular
   B) integumentary
   C) endocrine
   D) immune
   E) skeletal

22) A chemical imbalance in the body can cause the heart to stop pumping blood, which in turn will cause other tissues and organs to cease functioning. This observation supports the view that
   A) all organisms are composed of cells.
   B) congenital defects can be life-threatening.
   C) blood has magical properties.
   D) all levels of organization within an organism are interdependent.
   E) chemical molecules make up cells.

23) In general, the nervous system does each of the following, except
   A) interpret sensory information.
   B) respond rapidly to change.
   C) direct very specific responses.
   D) help to maintain homeostasis.
   E) direct long-term responses to change.

24) Which one of the following is not a characteristic of the endocrine system?
   A) produces an effect that involves several organs or tissues at the same time
   B) releases chemical messengers called hormones
   C) important homeostatic system
   D) produces a more rapid response than the nervous system
   E) produces effects that last for days or longer

25) The central principle of physiology is
   A) homeostasis.
   B) nutrition.
   C) temperature regulation.
   D) reflexes.
   E) stimulation.

26) The maintenance of a relatively constant internal environment in an organism is termed
   A) effector control.
   B) positive feedback.
   C) integration.
   D) homeostasis.
   E) negative feedback.

27) When body temperature rises, a center in the brain initiates physiological changes to decrease the body temperature. This is an example of
   A) diagnostic regulation.
   B) positive feedback.
   C) fever.
   D) negative feedback.
   E) nonhomeostatic regulation.
28) A cell or an organ that responds to commands of the control center in negative feedback is termed a(n)
   A) hypothalamus.
   B) stimulus.
   C) thermoregulator.
   D) receptor.
   E) effector.

29) This type of feedback exaggerates the effects of variations from normal.
   A) positive
   B) depressing
   C) negative
   D) neutral
   E) All of the answers are correct.

30) If a response decreases a disturbance, the control system is classified as a ______ feedback system.
    A) deficit
    B) negative
    C) polarized
    D) positive
    E) neutral

31) If a response increases a disturbance, the control system is classified as a ______ feedback system.
    A) neutral
    B) positive
    C) negative
    D) polarized
    E) deficit

32) An example of a receptor in a negative feedback loop controlling body temperature would be
    A) sweat glands that increase secretion.
    B) temperature sensors on the skin that detect a stimulus.
    C) regulatory centers that send commands to an effector.
    D) effectors that cause blood vessels to dilate.
    E) sweat glands that act like effectors.

33) The integrating center for the negative feedback loop that regulates body temperature is the
    A) skin.
    B) hypothalamus.
    C) thermostat.
    D) positive feedback center.
    E) temperature sensor.

34) The quadrants of the abdominopelvic region include all of the following except:
    A) right upper quadrant (RUQ)
    B) left upper quadrant (LUQ)
    C) right lower quadrant (RLQ)
    D) pelvic quadrant
    E) left lower quadrant (LLQ)

35) Which of the following is not considered an abdominopelvic region?
    A) right hypochondriac
    B) left hypochondriac
    C) right inguinal region
    D) upper
    E) left lumbar
36) A person who is standing facing forward with hands at the sides and palms facing forward is in the  
A) anatomical position.  
B) frontal position.  
C) sagittal position.  
D) supine position.  
E) prone position.  

37) An anatomical term that means the same as ventral:  
A) superior  
B) posterior  
C) abdominal  
D) anterior  
E) inferior  

38) The heart is _______ to the lungs.  
A) medial  
B) lateral  
C) posterior  
D) proximal  
E) distal  

39) The wrist is _______ to the elbow.  
A) horizontal  
B) distal  
C) lateral  
D) medial  
E) proximal  

40) The chin is _______ to the nose.  
A) medial  
B) anterior  
C) inferior  
D) posterior  
E) superior  

41) Which of the following regions corresponds to the buttocks?  
A) gluteal  
B) cephalic  
C) pelvic  
D) thoracic  
E) lumbar  

42) Which of the following terms refers to the foot?  
A) femoral  
B) cervical  
C) brachial  
D) antebrachial  
E) pedal  

43) Which plane divides the body into right and left parts?  
A) transverse  
B) frontal  
C) proximal  
D) orthogonal  
E) sagittal  

44) A midsagittal section of the body would pass through the  
A) leg.  
B) kidney.  
C) spleen.  
D) lung.  
E) heart.  

45) A person lying on the bed and gazing at the ceiling is in the _______ position.  
A) caudal  
B) prone  
C) anatomical  
D) supine  
E) dorsal
46) The plane that separates the abdominal and the pelvic cavities is
A) transverse at the hips.
B) the mediastinum.
C) midsagittal on the trunk.
D) superior to the thorax.
E) sagittal on the brachium.

47) Terms of anatomical direction are used to describe
A) living matter.
B) the nervous system.
C) surgical procedures.
D) a supine position.
E) one body part in relation to another.

48) While standing erect, the direction of caudal is
A) medial to the sides.
B) toward the head.
C) toward the heel.
D) lateral to the trunk.
E) posterior to the head.

49) While standing in the anatomical position,
A) front refers to ventral.
B) front refers to anterior.
C) back refers to dorsal.
D) back refers to posterior.
E) All of the answers are correct.

50) The liver is primarily located in the ______ quadrant.
A) left upper
B) hepatic
C) right lower
D) left lower
E) right upper

51) The urinary bladder is found in the ______ quadrant and the ______ quadrant.
A) right upper; right lower
B) left upper; left lower
C) right lower; left lower
D) right upper; right lower
E) left upper; right upper

52) The diaphragm muscle separates the ______ from the ______.
A) pericardial cavity; pleural cavity
B) pleural cavity; mediastinum
C) pericardial sac; pericardial cavity
D) abdominal cavity; pelvic cavity
E) thoracic cavity; abdominopelvic cavity
53) The two major divisions of the ventral body cavity are the
   A) pelvic and thoracic.
   B) dorsal and ventral.
   C) lateral and medial.
   D) thoracic and abdominopelvic.
   E) cranial and sacral.

54) The thoracic cavity contains the
   A) coelom.
   B) pericardial and pleural cavities.
   C) pericardial cavity.
   D) pelvic cavity.
   E) pleural cavities.

55) The serous membrane covering the stomach and most of the intestines is called the
   A) pleura.
   B) abdomen.
   C) mediastinum.
   D) peritoneum.
   E) pericardium.

56) Which of the following organs is located between the peritoneum and the body wall?
   A) large intestine
   B) kidney
   C) stomach
   D) spleen
   E) urinary bladder

57) The right pleural cavity contains:
   A) trachea
   B) right lung
   C) left lung
   D) heart
   E) both lungs

58) Which of the following organs is not contained within the abdominal cavity?
   A) ovary
   B) spleen
   C) small intestine
   D) pancreas
   E) stomach

59) Visceral pericardium is located
   A) on the lung itself.
   B) on the heart itself.
   C) lining the pericardial cavity.
   D) lining the peritoneal cavity.
   E) lining the pleural cavity.
60) The mediastinum
   A) contains the pleural cavities and pericardial cavity.
   B) contains the pericardial cavity.
   C) separates the pleural cavities.
   D) contains the pleural cavities.
   E) separates the pleural cavities and includes the pericardial cavity.

61) Identify a structure located within the mediastinum.
   A) small intestine
   B) stomach
   C) spleen
   D) pericardial cavity
   E) lung

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

62) The branch of biological science that studies the external and internal structure of the body and the physical relationship among body parts is called _______.

63) The branch of biological science that deals with the study of how living organisms perform their vital functions is called _______.

64) Anatomy uses a special language, called _______, that involves the use of word roots, prefixes, suffixes, and combining forms to construct terms related to the body in health and disease.

65) The _______ serves as a worldwide official standard of anatomical vocabulary.

66) The study of the changes in form that occur between conception and physical maturity is called _______.

67) The tendency for physiological systems to stabilize internal conditions is called _______.

68) _______ regulation occurs when the activities of organs are regulated locally. (Be sure to capitalize the first letter of your answer).

69) Homeostatic regulation usually involves a(n) _______ that detects a particular stimulus, and a(n) _______ that responds to the stimulus by communicating with a(n) _______ whose activity has an effect on the same stimulus.

70) _______ regulation results from the activities of the nervous or endocrine system. (Be sure to capitalize the first letter of your answer).

71) When homeostatic mechanisms fail, an individual will experience the symptoms of _______.

72) A person lying face down is in the _______ position.

73) A cut parallel to the midsagittal plane would produce a(n) _______ section.
74) The common term for the buccal region is the _______.  
75) The common term for the carpal region is the _______.  
76) The common name for the pollex is the _______.  
77) The common name for the patella is the _______.  

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

78) What is homeostatic regulation, and what is its physiological importance?

79) During exercise, blood flow to skeletal muscles increases. The initial response that increases blood flow is automatic and independent of the nervous and endocrine systems. Which type of homeostatic regulation is this? Why?

80) Name the organs found in the thoracic cavity.

81) Name the two upper abdominal quadrants and list the organs that lie in each.
Answer Key
Testname: UNTITLED1

1) E
   Learning Outcome: 1-1
   Bloom’s Taxonomy: Knowledge

2) E
   Learning Outcome: 1-2
   Bloom’s Taxonomy: Knowledge

3) E
   Learning Outcome: 1-3
   Bloom’s Taxonomy: Comprehension

4) B
   Learning Outcome: 1-4
   Bloom’s Taxonomy: Knowledge

5) E
   Learning Outcome: 1-4
   Bloom’s Taxonomy: Knowledge

6) B
   Learning Outcome: 1-4
   Bloom’s Taxonomy: Knowledge

7) A
   Learning Outcome: 1-4
   Bloom’s Taxonomy: Knowledge

8) D
   Learning Outcome: 1-4
   Bloom’s Taxonomy: Knowledge

9) E
   Learning Outcome: 1-4
   Bloom’s Taxonomy: Knowledge

10) E
    Learning Outcome: 1-4
    Bloom’s Taxonomy: Knowledge

11) E
    Learning Outcome: 1-4
    Bloom’s Taxonomy: Comprehension

12) A
    Learning Outcome: 1-4
    Bloom’s Taxonomy: Comprehension

13) E
    Learning Outcome: 1-5
    Bloom’s Taxonomy: Comprehension

14) B
    Learning Outcome: 1-5
    Bloom’s Taxonomy: Knowledge

15) B
    Learning Outcome: 1-5
    Bloom’s Taxonomy: Knowledge

16) B
    Learning Outcome: 1-5
    Bloom’s Taxonomy: Knowledge
Answer Key
Testname: UNTITLED1

17) A
   Learning Outcome: 1-5
   Bloom’s Taxonomy: Knowledge

18) E
   Learning Outcome: 1-5
   Bloom’s Taxonomy: Knowledge

19) E
   Learning Outcome: 1-5
   Bloom’s Taxonomy: Knowledge

20) E
   Learning Outcome: 1-5
   Bloom’s Taxonomy: Knowledge

21) B
   Learning Outcome: 1-5
   Bloom’s Taxonomy: Knowledge

22) D
   Learning Outcome: 1-5
   Bloom’s Taxonomy: Application

23) E
   Learning Outcome: 1-6
   Bloom’s Taxonomy: Comprehension

24) D
   Learning Outcome: 1-6
   Bloom’s Taxonomy: Comprehension

25) A
   Learning Outcome: 1-6
   Bloom’s Taxonomy: Comprehension

26) D
   Learning Outcome: 1-6
   Bloom’s Taxonomy: Knowledge

27) D
   Learning Outcome: 1-7
   Bloom’s Taxonomy: Comprehension

28) E
   Learning Outcome: 1-7
   Bloom’s Taxonomy: Knowledge

29) A
   Learning Outcome: 1-7
   Bloom’s Taxonomy: Knowledge

30) B
   Learning Outcome: 1-7
   Bloom’s Taxonomy: Comprehension

31) B
   Learning Outcome: 1-7
   Bloom’s Taxonomy: Comprehension

32) B
   Learning Outcome: 1-7
   Bloom’s Taxonomy: Comprehension
Answer Key
Testname: UNTITLED1

33) B
   Learning Outcome: 1-7
   Bloom’s Taxonomy: Comprehension

34) D
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

35) D
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

36) A
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

37) D
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

38) A
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

39) B
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

40) C
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

41) A
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

42) E
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

43) E
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

44) E
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

45) D
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Comprehension

46) A
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Comprehension

47) E
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Comprehension

48) C
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Comprehension
49) E  
Learning Outcome: 1-8  
Bloom’s Taxonomy: Comprehension

50) E  
Learning Outcome: 1-8  
Bloom’s Taxonomy: Knowledge

51) C  
Learning Outcome: 1-8  
Bloom’s Taxonomy: Knowledge

52) E  
Learning Outcome: 1-9  
Bloom’s Taxonomy: Knowledge

53) D  
Learning Outcome: 1-9  
Bloom’s Taxonomy: Knowledge

54) B  
Learning Outcome: 1-9  
Bloom’s Taxonomy: Knowledge

55) D  
Learning Outcome: 1-9  
Bloom’s Taxonomy: Knowledge

56) B  
Learning Outcome: 1-9  
Bloom’s Taxonomy: Knowledge

57) B  
Learning Outcome: 1-9  
Bloom’s Taxonomy: Knowledge

58) A  
Learning Outcome: 1-9  
Bloom’s Taxonomy: Knowledge

59) B  
Learning Outcome: 1-9  
Bloom’s Taxonomy: Knowledge

60) E  
Learning Outcome: 1-9  
Bloom’s Taxonomy: Knowledge

61) D  
Learning Outcome: 1-9  
Bloom’s Taxonomy: Comprehension

62) anatomy  
Learning Outcome: 1-3  
Bloom’s Taxonomy: Knowledge

63) physiology  
Learning Outcome: 1-3  
Bloom’s Taxonomy: Knowledge

64) medical terminology  
Learning Outcome: 1-3  
Bloom’s Taxonomy: Knowledge
65) Terminologia Anatomica or International Anatomical Terminology
   Learning Outcome: 1-3
   Bloom’s Taxonomy: Knowledge

66) developmental anatomy
   Learning Outcome: 1-4
   Bloom’s Taxonomy: Knowledge

67) homeostasis
   Learning Outcome: 1-6
   Bloom’s Taxonomy: Knowledge

68) Intrinsic or Auto
   Learning Outcome: 1-6
   Bloom’s Taxonomy: Knowledge

69) receptor; control center or integration center; effector
   Learning Outcome: 1-6
   Bloom’s Taxonomy: Comprehension

70) Extrinsic
   Learning Outcome: 1-6
   Bloom’s Taxonomy: Knowledge

71) disease
   Learning Outcome: 1-6
   Bloom’s Taxonomy: Knowledge

72) prone
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

73) parasagittal
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

74) cheek
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

75) wrist
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

76) thumb
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

77) kneecap
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

78) Homeostatic regulation refers to adjustments in physiological systems that are responsible for the preservation of a constant internal environment. This provides a favorable environment for the body’s cells.
   Learning Outcome: 1-6
   Bloom’s Taxonomy: Comprehension

79) The initial increase in blood flow to active muscles is an example of autoregulation. For example, when oxygen levels decline in a tissue, the cells release chemicals that dilate local blood vessels. This dilation increases the rate of blood flow and provides more oxygen to the region even before responses from the nervous or endocrine system take place. Autoregulation does not require the nervous or endocrine system.
   Learning Outcome: 1-6
   Bloom’s Taxonomy: Application
80) lungs, heart, trachea, esophagus, thymus, major blood vessels connected to the heart
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Knowledge

81) right upper quadrant (RUQ): right lobe of liver, gallbladder, right kidney, portions of stomach, large and small intestines; left upper quadrant (LUQ): left lobe of liver, stomach, pancreas, left kidney, spleen, portions of large intestine
   Learning Outcome: 1-8
   Bloom’s Taxonomy: Comprehension