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Corret Answers are located at the end of each chapter.

TRUE/FALSE - Write 'T' if the statement is true and 'F' if the statement is false.

1) Paired organs that are bilateral, on the left and right side of the body, would be separated by a midsagittal section.
   - ◎ true
   - ◎ false

2) The field of medicine arose as early healers abandoned superstitions and ideas about magic and started using natural chemicals and wondering why they were effective at treating illness.
   - ◎ true
   - ◎ false

3) Cadaver dissection is against the law in the United States.
   - ◎ true
   - ◎ false

4) The anatomy of a body part is closely related to its physiology.
   - ◎ true
   - ◎ false

5) We know all there is to know about the structure and function of the human body.
   - ◎ true
   - ◎ false

6) Cells with similar functions aggregate into organelles.
   - ◎ true
   - ◎ false

7) Macromolecules are built of atoms.
   - ◎ true
   - ◎ false

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8) Organ systems consist of organs, which consist of tissues.
- ◎ true
- ◎ false

9) A cell is the basic unit of structure and function of an organism.
- ◎ true
- ◎ false

10) Absorption is the ability to exhale carbon dioxide.
- ◎ true
- ◎ false

11) Reproduction is the change in body characteristics over time.
- ◎ true
- ◎ false

12) Temperature is a form of energy, whereas heat is a measurement of the intensity of the temperature.
- ◎ true
- ◎ false

13) Homeostasis is the maintenance of an unstable internal environment.
- ◎ true
- ◎ false

14) The maintenance of a steady body temperature in the face of fluctuating environmental conditions illustrates homeostasis.
- ◎ true
- ◎ false

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15) The diaphragm separates the thoracic and the abdominopelvic cavities.
- ◎ true
- ◎ false

16) The parietal pericardium is attached to the surface of the heart.
- ◎ true
- ◎ false

17) The organ systems responsible for integration and coordination are the nervous and endocrine systems.
- ◎ true
- ◎ false

18) Kidneys are part of the lymphatic system.
- ◎ true
- ◎ false

19) The muscular system is responsible for body movements, maintenance of posture, and production of body heat.
- ◎ true
- ◎ false

20) The digestive system filters wastes from the blood.
- ◎ true
- ◎ false

21) Aging begins in the fetus.
- ◎ true
- ◎ false

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22) Chromosomes get longer as a cell ages.

- ◎ true
- ◎ false

23) Ceroid pigments and lipofuscin accumulate with aging, impairing the ability of a cell to withstand the damaging effects of oxygen free radicals.

- ◎ true
- ◎ false

24) The ears are lateral to the eyes.

- ◎ true
- ◎ false

25) The elbow is distal to the wrist.

- ◎ true
- ◎ false

26) A body in the anatomical position is lying down, as a cadaver would be positioned.

- ◎ true
- ◎ false

27) The following list accurately represents levels of organization in the body from smallest to largest: nucleus → chromosome → liver cell→ liver epithelial tissue → liver→ digestive system

- ◎ true
- ◎ false

28) The head is superior to the neck.

- ◎ true
- ◎ false

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29) An older adult would be less vulnerable to emerging influenzas and other seasonal viruses due to increased cell efficiency and heightened cell division.

◎ true
◎ false

30) A researcher has questions about the functions of the greater omentum, a structure found in the abdominal cavity. They begin researching its various functions. This researcher is studying the physiology of the organ.

◎ true
◎ false

31) A researcher has questions about the structure of the mesentery, a tissue connecting the intestines to the wall of the abdominal cavity. They begin researching its location, components, and its specific structures. This researcher is studying the physiology of the organ.

◎ true
◎ false

32) The integumentary system is superficial to the skeletal system.

◎ true
◎ false

CHECK ALL THE APPLY. Choose all options that best completes the statement or answers the question.

33) Which of the following are signs of aging at the cellular level?

A) Graying hair, waning strength, and wrinkles
B) Unrepaired DNA and abnormal proteins
C) Impaired cell division and the ability to break down and recycle worn cell parts
D) A fatty liver and clogged blood vessels

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

34) What type of investigator conducts an experiment to determine how temperature changes affect the rate at which the heart beats?

A) Anatomist
B) Physiologist
C) Pathologist
D) Biochemist

35) Why are the topics of anatomy and physiology difficult to separate?

A) Physiological functions depend on anatomy of structures.
B) Physiological functions in an organism are ongoing.
C) The body parts take up space.
D) Our understanding of physiology is changing more than our understanding of anatomy.

36) The activities of an anatomist consist of_____, whereas those of a physiologist consist of_____.

A) observing body parts; studying functions of body parts
B) conducting experiments; making microscopic examinations
C) studying molecules; observing forms of the body parts
D) sketching; dissecting

37) What is the origin of the term "anatomy"?

A) From the Greek word for "function".
B) Named after the first anatomist.
C) From the Greek word for "cutting up".
D) For the function of internal organs.

38) What is the term "physiology" is related to?

A) The Latin word for "physical shape".
B) The structure of internal organs.
C) The Greek word for "cutting up".
D) The Greek word for "relationship to nature".

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39) What is illustrated by the recent discovery of taste receptors in the small intestine that detect sweetness?

A) Chemical responses occur in only one part of the body.
B) New discoveries about anatomy and physiology are still being made.
C) Everything there is to know about anatomy and physiology has been discovered.
D) The molecular and cellular levels are of little interest in anatomy and physiology.

40) Which of the following is **not** true of organelles?

A) They carry on specific activities.
B) They are only in cells of humans.
C) They are composed of aggregates of large molecules.
D) They are found in many types of cells.

41) Which of the following lists best illustrates increasing levels of complexity?

A) Cells, tissues, organelles, organs, organ systems
B) Tissues, cells, organs, organelles, organ systems
C) Organs, organelles, organ systems, cells, tissues
D) Organelles, cells, tissues, organs, organ systems

42) In all organisms, what is the basic unit of structure and function?

A) The atom
B) The organelle
C) The macromolecule
D) The cell

43) Specialized cell types organized in a way that provides a specific function form_____.

A) tissues
B) organs
C) organ systems
D) organelles

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44) Simple squamous epithelium is an example of which organizational level?

A) Organ system
B) Organ
C) Tissue
D) Molecule

45) What is assimilation?

A) The changing of absorbed substances into different chemical forms.
B) The breaking down of foods into nutrients that the body can absorb.
C) The elimination of waste from the body.
D) The increase in body size without a change in overall shape.

46) The ability of an organism to sense and react to changes in its body is an example of_____.

A) circulation
B) respiration
C) responsiveness
D) absorption

47) What process is defined as the removal of wastes?

A) Metabolism
B) Absorption
C) Assimilation
D) Excretion

48) Which of the following characteristics of life and their descriptions is correct?

A) Responsiveness: obtaining and using oxygen to release energy from food.
B) Assimilation: sensing changes inside or outside the body and reacting to them.
C) Respiration: changing absorbed substances into forms that are chemically different from those that entered the body fluids.
D) Circulation: the movement of substances in body fluids.

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49) What is the definition of metabolism?
A) The removal of wastes produced by chemical reactions.
B) The breakdown of substances into simpler forms.
C) The taking in of nutrients.
D) The chemical reactions occurring in an organism that support life.

50) Which of the following processes does **not** help to maintain the life of an individual organism?
A) Responsiveness
B) Movement
C) Reproduction
D) Respiration

51) Which of the following processes is most important to the continuation of the human species?
A) Responsiveness
B) Movement
C) Reproduction
D) Respiration

52) What is the definition of homeostasis?
A) The changing external conditions.
B) The maintenance of stable external conditions.
C) The changing internal conditions.
D) The maintenance of stable internal conditions.

53) Which of the following is an example of a positive homeostatic mechanism in the human body?
A) Shivering when body temperature falls below normal.
B) Increasing heart rate and force of contraction when blood pressure falls.
C) Retention of fluid leading to retention of more fluid.
D) Secreting insulin after a meal to return blood sugar concentration toward normal.

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54) Which of the following are typically required to maintain a stable internal environment?
A) Positive feedback mechanisms.
B) An unstable outside environment.
C) Decreased atmospheric pressure.
D) Negative feedback mechanisms.

55) You accidentally cut your hand. Blood platelets in the area begin to attach to the broken blood vessel walls in the wound. What needs to happen next to create a positive feedback mechanism?
A) The platelets change shape and encourage more platelets to rush in and stick to each other to form plugs that seal the broken vessels.
B) The platelets sticking to the broken blood vessels signals the blood to stop flowing to that area, which stops the bleeding.
C) The sensation of pain in your hand causes your muscles to jerk your hand away from the danger.
D) The platelets send signals to the brain to slow heart rate and slow the bleeding.

56) Which of the following must the human body obtain from the environment in order to survive?
A) Nitrogen
B) Wastes
C) Water
D) Carbon dioxide

57) Homeostasis exists if concentrations of water, nutrients, and oxygen in the body are balanced and heat and pressure _____.
A) decrease steadily
B) remain within certain limited ranges
C) increase when the body is stressed
D) fluctuate greatly between very high and low values

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58) In negative feedback mechanisms, what occurs due to changes that move a variable away from the normal state?
A) Stimulation to change the variable in the same direction.
B) Inhibition of all body reactions.
C) Stimulation to change the variable in the opposite direction.
D) Stimulation to reduce all requirements of the body.

59) What is the effect of a positive feedback mechanism?
A) It causes long-term changes.
B) It moves conditions away from the normal state.
C) It brings conditions back to the normal state.
D) It produces stable conditions.

60) Which of the following illustrates a positive feedback mechanism?
A) Maintenance of blood pressure.
B) Uterine contractions during childbirth.
C) Body temperature control.
D) Control of blood sugar.

61) Which of the following is true regarding the effect of a positive feedback mechanisms?
A) They are the primary means of maintaining homeostasis.
B) They stabilize conditions.
C) They cause unstable conditions, at least temporarily.
D) They maintain the internal environment.
E) They move conditions toward a setpoint.

62) Which of the following diseases would originate in the abdominopelvic cavity?
A) Asthma
B) Laryngitis
C) Myopia (near-sightedness)
D) Pancreatitis

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63) Pneumothorax (collapsed lung) is a condition that occurs when an air-filled space forms between the lung and the wall of the pleural cavity. This space would be between which two layers?

A) Parietal pleura and visceral pleura
B) Parietal pleura and visceral pericardium
C) Visceral pericardium and parietal pericardium
D) Parietal pericardium and parietal pleura

64) What is a main function of the digestive system?

A) Formation of cells
B) Movement of body parts
C) Absorption of nutrients
D) Providing oxygen for the extraction of energy from nutrients.

65) Which of the following is part of the male reproductive system?

A) Uterus
B) Kidneys
C) Thymus
D) Scrotum

66) The thoracic cavity is_____ to the abdominopelvic cavity.

A) dorsal (posterior)
B) ventral (anterior)
C) superior
D) inferior

67) What organ system contains organs that produce blood cells?

A) Endocrine
B) Skeletal
C) Respiratory
D) Muscular

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68) A parietal layer of a serous membrane_____, whereas a visceral layer of a serous membrane_____.
A) covers organs; lines cavities
B) lines cavities; covers organs
C) secretes serous fluid; secretes mucus
D) secretes mucus; secretes a serous fluid

69) When does cell death first occur?
A) Around age 60
B) Around age 50
C) At puberty
D) During fetal development

70) What causes wrinkling and sagging of the skin?
A) Drinking too much water
B) Genetics
C) Loss of subcutaneous fat, elastin, and collagen.
D) Excess subcutaneous fat

71) What is a characteristic that many centenarians share?
A) They had high level of exercise throughout life.
B) They have long-lived relatives.
C) They follow the Mediterranean diet.
D) They never smoked.

72) A body has been sectioned in such a way that both lungs and the urinary bladder are visible. What type of section was used?
A) Frontal
B) Transverse
C) Midsagittal
D) Sagittal

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73) The upper midportion of the abdomen is called the_____ region.

A) hypochondriac
B) iliac
C) hypogastric
D) epigastric

74) When the body is placed in the anatomical position, which of the following is **not** true?

A) The head is facing to the front.
B) The palms are facing backwards.
C) The body is erect.
D) The upper limbs are at the sides.

75) What is the anatomical term that indicates a structure close to the surface?

A) Anterior
B) Proximal
C) Superficial
D) Superior

76) What type of structures can be visualized using ultrasonography?

A) Dense organs, such as bones.
B) Air-filled organs, such as lungs.
C) Soft internal structures, such as fetuses.
D) Microscopic structures, such as mitochondria.

77) Magnetic resonance imaging uses_____.

A) X-rays
B) radio waves
C) radioisotopes
D) high-frequency sound waves

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78) What is/are the origin(s) of many of the terms in anatomy and physiology?
A) Greek and Latin
B) Spanish and Portuguese
C) French and German
D) Chinese and Japanese

79) At what level of organization is skin?
A) Tissue level
B) Cellular level
C) Organ level
D) System level
E) Chemical level

80) What requirement of life is the most abundant chemical in the body and is the major component of extracellular fluid?
A) Water
B) Oxygen
C) Cell
D) Heat
E) Food

81) Name two types of cavities found in the head.
A) Paranasal sinuses and nasal cavity
B) Oral cavity and mediastinum
C) Cranial cavity and vertebral canal
D) Tympanic cavities and pleural cavities

82) What organ system includes the kidneys?
A) Respiratory system
B) Digestive system
C) Endocrine system
D) Urinary system

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83) The pancreas releases hormones. It also releases enzymes needed to break down food. Because of this dual role, the pancreas could be considered part of what two organ systems?
A) Nervous and digestive systems
B) Cardiovascular and lymphatic systems
C) Endocrine and digestive systems
D) Urinary and endocrine systems
E) Lymphatic and integumentary systems

84) Bell's palsy results in the lack of stimulation to facial muscles, so they do not contact. Bell's palsy is associated with what organ system?
A) Nervous system
B) Endocrine system
C) Skeletal system
D) Integumentary system

85) Which is a physiological description rather than an anatomical one?
A) Heart muscle is under involuntary control and is fatigue resistant.
B) The skin is composed of an epithelial layer over a connective tissue layer.
C) The quadriceps femoris and hamstring muscles are located in the thigh.
D) The aorta is a large vessel connected to the heart.

86) The femoral region is_____ to the popliteal region.
A) distal
B) medial
C) proximal
D) lateral

87) What term refers to an increase in body size without overall change in shape?
A) Growth
B) Atrophy
C) Assimilation
D) Metabolism

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FILL IN THE BLANK. Write the word or phrase that best completes each statement or answers the question.

88) Dissection of human bodies became part of formal medical school coursework in the _____ century.

89) The branch of science that deals with the structure of human body parts is called _____.

90) The branch of science that deals with the functions of human body parts is called_____.

91) A group of cells with common properties that are organized into a layer or mass is called a(n)_____.

92) A subcellular structure built of assemblies of macromolecules that carries out a particular function is a(n)_____.

93) The process by which food substances are chemically changed into simpler forms that can be absorbed is called_____.

94) An increase in body size without overall change in shape is called_____.

95) The most abundant molecule in the human body is_____.

96) Self-regulating control mechanisms usually operate by a process called_____ feedback.

97) The pleural cavity is a potential space between the_____ membranes.

98) The chemicals secreted by endocrine glands are called _____.

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99) Deep vein thrombosis, heart attack, and high blood pressure are all diseases of the_____ system.

100) Individuals who live more than 100 years are called_____.

101) Standing erect with face and palms forward and upper limbs at the sides describes the_____ position.

102) A lengthwise cut that divides the body into right and left portions is termed a(n)_____ section.

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Answer Key

Test name: Chapter 01

1) TRUE
2) TRUE
3) FALSE
4) TRUE
5) FALSE
6) FALSE
7) TRUE
8) TRUE
9) TRUE
10) FALSE
11) FALSE
12) FALSE
13) FALSE
14) TRUE
15) TRUE
16) FALSE
17) TRUE
18) FALSE
19) TRUE
20) FALSE
21) TRUE
22) FALSE
23) TRUE
24) TRUE
25) FALSE
26) FALSE
27) FALSE
28) TRUE
29) FALSE
30) TRUE
31) FALSE
32) TRUE
33) [B, C]
34) B
35) A
36) A
37) C

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38) D
39) B
40) B
41) D
42) D
43) A
44) C
45) A
46) C
47) D
48) D
49) D
50) C
51) C
52) D
53) C
54) D
55) A
56) C
57) B
58) C
59) B
60) B
61) C
62) D
63) A
64) C
65) D
66) C
67) B
68) B
69) D
70) C
71) D
72) A
73) D
74) B
75) C
76) C
77) B

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78) A
79) C
80) A
81) A
82) D
83) C
84) A
85) A
86) C
87) A
88) twentieth
89) anatomy
90) physiology
91) tissue
92) organelle
93) digestion
94) growth
95) water
96) negative
97) pleural
98) hormones
99) cardiovascular
100) centenarians
101) anatomical
102) sagittal

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