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## Chap 02 3e

1) Which of the following lists the levels of organization of the human body in the correct order?

A) Chemical level, organelle level, cellular level, tissue level, organ level, systems level, organism level

B) Chemical level, tissue level, organ level, systems level, organelle level, cellular level, organism level

C) Organelle level, chemical level, cellular level, tissue level, organ level, systems level, organism level

D) Chemical level, organelle level, cellular level, tissue level, organism level, organ level, systems level

2) The organelle level of organization includes which of the following concepts?

A) Organ systems work together to form an organism

B) Body organs work together to form organ systems

C) Atoms bond to form molecules

D) Organelles work together in a living cell

3) Which of the following is not a level of organization in the human body?

A) Organs

B) Cells

C) Ions

D) Tissues

4) What is matter?

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- A) Anything that takes up space
  - B) Anything that has mass
  - C) Anything that takes up space and has mass
  - D) Everything is composed of matter.

5) Which of the following is not composed of matter?

- A) All of the answer choices contain matter.
- B) The air we breathe
- C) The steam formed from boiling water
- D) The fumes emitted from a vehicle

6) Which forms of an element can be used as a diagnostic tool?

- A) Isomers
- B) Radioisotopes
- C) Ions
- D) Stereoisomers

7) What are the outermost subatomic particles in an atom?

- A) Protons
- B) Neutrons
- C) Electrons
- D) Nuclei

8) Which of the following correctly describes the atomic number?

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- A) The combined number of protons and neutrons
  - B) The number of protons
  - C) The number of electrons
  - D) The combined number of protons and electrons

9) Which of the following types of bonding is characterized by two or more atoms sharing electrons to fill their outer shells?

- A) Ionic bond
- B) Covalent bond
- C) Charged bond
- D) Hydrogen bond

10) Which of the following is not true regarding the functions of water?

- A) Water chemically bonds molecules to form electrolytes.
- B) Water works as a lubricant in tears and the fluid of joints.
- C) Water aids in chemical reactions as in saliva during digestion.
- D) Water is used to transport nutrients and wastes in blood plasma.

11) Which statement correctly describes a hypertonic solution when compared to another solution?

- A) The solution has a higher concentration of solutes than the other solution.
- B) The solution has the same concentration of solutes as the other solution.
- C) The solution has a lower concentration of solutes than the other solution.
- D) The solution is less concentrated with solvent than the other solution.

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12) What is an acid?

- A) A molecule with a pH of 7
- B) A molecule that releases a hydroxide ion when added to water
- C) A molecule that releases a hydrogen ion when added to water
- D) A molecule with a pH higher than 7

13) What is a base?

- A) A molecule with a pH of 7
- B) A molecule that releases a hydroxide ion when added to water
- C) A molecule that releases a hydrogen atom when added to water
- D) A molecule with a pH of less than 7

14) If a solution has a pH of 12, which of the following statement is incorrect?

- A) The solution is a base.
- B) The solution will release hydroxide ions when added to water.
- C) The solution is alkaline.
- D) The solution will release hydrogen ions when added to water.

15) What condition results if the blood's pH is less than 7.35?

- A) Acidosis
- B) Alkalosis
- C) Acidic
- D) Alkaline

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- 16) What are the four types of organic molecules?
- A) Glucose, proteins, lipids, nucleic acids
  - B) Carbohydrates, proteins, lipids, nucleic acids
  - C) Monosaccharides, proteins, lipids, nucleotides
  - D) Carbohydrates, amino acids, lipids, nucleic acids
- 17) Which of the following is not a function of proteins?
- A) To transport other molecules
  - B) To provide strength
  - C) To fight foreign invaders
  - D) To store energy
- 18) Which organic molecules make up the genetic material of a cell?
- A) Proteins
  - B) Lipids
  - C) Nucleic acids
  - D) Carbohydrates
- 19) What are the building blocks of proteins?
- A) Monosaccharides
  - B) Amino acids
  - C) Nucleotides
  - D) Glycerols

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- 20) Which of the following is a function of lipids?
- A) To form genetic material
  - B) To transport other molecules
  - C) To fight foreign invaders
  - D) To store energy
- 21) Carbohydrates contain carbon, hydrogen, and oxygen in which of the following ratios?
- A) 1:1:1
  - B) 2:1:2
  - C) 1:2:1
  - D) 2:1:1
- 22) What is metabolism?
- A) The speed of chemical reactions in a human body
  - B) The sum total of all chemical reactions in the human body
  - C) The temperature of chemical reactions in the human body
  - D) The concentration of reactants in chemical reactions within the human body
- 23) What governs the speed of a reaction?
- A) The concentration of reactants
  - B) The temperature of the reaction
  - C) The presence of a catalyst
  - D) All of these choices are correct.

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- 24) What does the human body use cellular respiration for?
- A) To release and capture the energy held in molecular bonds
  - B) To create carbon dioxide
  - C) To produce water
  - D) To allow us to breathe
- 25) What is ATP?
- A) A usable form of energy for the cell
  - B) A modified glucose molecule
  - C) The waste product produced by cellular respiration
  - D) Adenosine diphosphate
- 26) Which organelle regulates what enters and exits the cell?
- A) Cell membrane
  - B) Golgi complex
  - C) Lysosomes
  - D) Nucleus
- 27) Which organelle is responsible for assembling amino acids into proteins?
- A) Cell membrane
  - B) Golgi complex
  - C) Lysosome
  - D) Ribosome

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- 28) Which organelle is responsible for carrying out cellular respiration?
- A) Cell membrane
  - B) Golgi complex
  - C) Mitochondrion
  - D) Ribosome
- 29) Which organelle does not play a role in synthesizing and processing proteins?
- A) Mitochondrion
  - B) Golgi complex
  - C) Endoplasmic reticulum
  - D) Ribosome
- 30) Which of the following is not a function of the cell membrane?
- A) To give the cell structure
  - B) To regulate what enters and exits the cell
  - C) To defines the cell's intracellular and extracellular environment
  - D) To house the DNA
- 31) The phospholipids in the cell membrane are composed of what?
- A) Transport proteins
  - B) Hydrophilic tails
  - C) Hydrophobic heads
  - D) Hydrophobic chains and hydrophilic heads

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32) The cell membrane contains all of the following except\_\_\_\_\_.

- A) phospholipids
- B) secretory vesicles
- C) cholesterol
- D) channels

33) Which of the following correctly describes passive transport?

- A) Transport of materials across the cell membrane
- B) Transport of materials across the cell membrane up the concentration gradient
- C) Transport of materials across the cell membrane with the use of energy
- D) Transport of materials across the cell membrane without the use of energy

34) Which statement correctly compares passive and active transport?

A) Passive transport moves materials across the cell membrane without the use of energy while active transport moves materials across the cell membrane against the concentration gradient with the use of energy.

B) Passive transport moves materials across the cell membrane with the use of energy while active transport moves materials across the cell membrane against the concentration gradient without the use of energy.

C) Passive transport moves materials across the cell membrane with the use of energy while active transport moves materials across the cell membrane against the concentration gradient with the use of energy.

D) Passive transport moves materials across the cell membrane without the use of energy while active transport moves materials across the cell membrane against the concentration gradient without the use of energy.

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**35)** Which of the following types of transport require energy?

- A) Filtration
- B) Facilitated diffusion
- C) Active
- D) Osmosis

**36)** Which of the following is not a form of passive transport?

- A) Filtration
- B) Endocytosis
- C) Osmosis
- D) Simple diffusion

**37)** What is osmosis?

- A) The diffusion of water across a semipermeable membrane until concentrations are equal on either side of the membrane
- B) The diffusion of water across a semipermeable membrane against its concentration gradient
- C) The diffusion of water across a semipermeable membrane from an area of low water concentration to high water concentration
- D) The diffusion of solutes across a semipermeable membrane

**38)** Which statement incorrectly describes active transport?