Name: _____ Class: _____ Date: _____ ID: A

Bio Cell Test (Chapter 7)

Multiple Choice (1 point each)
Identify the choice that best completes the statement or answers the question.

____ 1. Which cell structure contains the cell's genetic material and controls many of the cell's activities?
a. endoplasmic reticulum
b. nucleus
c. cell envelope
d. cytoplasm

____ 2. Which organelle uses enzymes and other chemicals to break down compounds into small particles that the cell can use?
a. Golgi apparatus
b. lysosome
c. endoplasmic reticulum
d. mitochondrion

____ 3. Which organelle makes proteins using coded instructions that come from the nucleus?
a. Golgi apparatus
b. mitochondrion
c. vacuole
d. ribosome

____ 4. Which organelle converts the chemical energy stored in food into compounds that are more convenient for the cell to use?
a. chloroplast
b. Golgi apparatus
c. endoplasmic reticulum
d. mitochondrion

____ 5. Which of the following is a function of the cell membrane?
a. breaks down lipids, carbohydrates, and proteins from foods
b. stores water, salt, proteins, and carbohydrates
c. keeps the cell wall in place
d. controls and regulates which materials enter and leave the cell

____ 6. Diffusion occurs because
a. molecules constantly move and collide with one another.
b. the concentration of a solution is never the same throughout a solution.
c. the concentration of a solution is always the same throughout a solution.
d. molecules never move or collide with one another.

____ 7. An animal cell that is surrounded by fresh water (pure water) will burst because the osmotic pressure caus
a. water to move into the cell.
b. water to move out of the cell.
c. solutes to move into the cell.
d. solutes to move out of the cell.

____ 8. The cell membrane contains channels and pumps that help move materials from one side to the other. Wha are these channels and pumps made of?
a. proteins
b. bilipids
c. lipids
d. carbohydrates

____ 9. Unlike the cell membrane, the cell wall is
a. usually made of tough fibers made of cellulose that are rigid (not flexible).
b. composed of a lipid bilayer.
c. a flexible barrier.
d. found in the cells of all organisms.

____ 10. When the concentration of molecules on both sides of a membrane is the same, the molecules will
a. move across the membrane to the outside of the cell
b. move across the membrane in both directions at the same relative speed
c. move across the membrane to the inside of the cell
d. stop moving across the membrane

____ 11. The main function of the cell wall in plants is to
a. help the cell move
b. store DNA
c. direct the activities of the cell
d. support and protect the cell

____ 12. During the process of osmosis, the net movement is of water is towards the solution that is
a. hypotonic
b. hypertonic
c. equaltonic
d. isotonic

____ 13. A term that is synonomous for *cell membrane* is
a. plasma membrane
b. cell wall
c. nucleus
d. cell transport

Modified True/False (1 point each)

Indicate whether the statement is true or false. If false, change the identified word or phrase to make the statement tru

____ 14. Tissues are the "mini organs" of eukaryotic cells. They are components of eukaryotic cells that allow them become specialized for certain functions (to have jobs).

____ 15. Often, after a protein is made, it travels from the ribosome ---> through the endoplasmic reticulum ---> to mitochondria where it is modified and packaged for release/export through the cell membrane.

Matching (1 point each)

Match the names of each type of cell transport with their description.

a. Process in which part of the plasma membrane surrounds solid particles and takes them into the cell.
b. Process by which particles/molecules move from a high concentration to a low concentration.
c. Process by which the plasma membrane of a cell surrounds liquid and takes it into the cell.
d. Process by which a cell releases large amount of material (e.g. the release of neurotransmitters).
e. The diffusion of water across a selectively permeable membrane.

____ 16. Pinocytosis

____ 17. Osmosis

____ 18. Exocytosis

____ 19. Phagocytosis

____ 20. Diffusion

Short Answer (2 points each)

21. Name at least two ways in which prokaryotes and eukaryotes differ? (2 points)

    a) _____

    b) _____

22. Use the terms ***high concentration*** and ***low concentration*** to define diffusion. Then give an example of diffusion. Diagrams are encouraged.

23. A hypertonic salt solution has a higher concentration of solutes (dissolved substances) than a blood cell. U the term **osmosis** to explain what happens when a blood cell is placed in a hypertonic salt solution. Diagra are encouraged.

24. One of the statements behind cell theory is that cells are the basic units of structure and function in living things. State the other **two** concepts behind cell theory.

    1. _____

    2. _____

25. Would you expect skin cells to contain more or fewer mitochondria than muscle cells? Explain your answ

26. The cell membrane is classified as a ***lipid bilayer***.Explain what that term means. Diagrams are encouraged

Other (2 points each)

USING SCIENCE SKILLS

A student put together the experimental setup shown below. The selectively permeable membrane is permeable to both types of solute molecules shown.

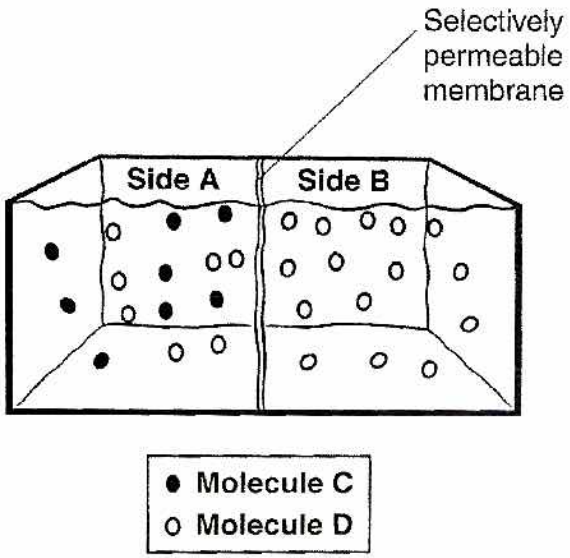

Figure 7–2

27. **Interpreting Graphics**

a) What does the term *selectively permeable membrane* mean?

b) Why are cell membranes considered selectively permeable?

28. **Predicting** What will the apparatus shown in Figure 7-2 look like when equilibrium is reached? Diagrams are encouraged.