Bio12-Q1W4-H.W- Revision on Cytology

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. Which of the following organisms do not have cell walls?
a. plants
b. fungi
c. bacteria
d. animals

____ 2. Which of the following is NOT true of plasma membranes?
a. Folded membranes increase surface area for efficiency.
b. Folded membranes do not form compartments in the cell.
c. Endoplasmic reticulum is made up of folded membranes.
d. Ribosomes are sometimes attached to folded membranes.

____ 3. Folded membranes are an advantage to a cell because _____.
a. cell processes can be more efficient
b. the membranes provide a large surface area
c. the membranes form interconnected compartments
d. all of these

____ 4. Who concluded that all plants are made of living cells?
a. Virchow
b. Hooke
c. Schwann
d. Schleiden

____ 5. What do electron microscopes use to focus and magnify an image?
a. glass lenses
b. X rays
c. electron beams
d. light

____ 6. Each of the following is a main idea of the cell theory except _____.
a. all organisms are composed of cells
b. the cell is the basic unit of organization of organisms
c. all cells are similar in structure and function
d. all cells come from preexisting cells

____ 7. The scientist who first described living cells as seen through a simple microscope was _____.
a. van Leeuwenhoek
b. Schleiden
c. Hooke
d. Schwann

____ 8. One advantage of electron microscopes over light microscopes is their _____.
a. size
b. higher magnification
c. two-dimensional image
d. use of live specimens

____ 9. Because cells have a watery environment both inside and outside, the polar ends of the phospholipids in the plasma membrane form ____ layers
a. several
b. mosaic
c. double
d. single

____ 10. The fluid mosaic model describes a structure with ____.
a. polar layers on the outside and nonpolar layer on the inside
b. nonpolar layers on the outside and a polar layer on the inside
c. polar layers on both inside and outside
d. nonpolar layers on both inside and outside

____ 11. Because the phospholipid molecules and some proteins are free to move, the plasma membrane is said to be a ____.
a. bilayer
b. solid
c. fluid mosaic
d. fatty acid

____ 12. Which of the following might be a result of a disease that causes a thickened plasma membrane?
a. increased movement of molecules entering the cell
b. decreased movement of molecules within the cell
c. decreased movement of molecules entering the cell
d. increased movement of molecules leaving the cell

____ 13. A cell's contents would be the same as its surrounds, were it not for ____.
a. plasmolysis
b. selective permeability
c. phagocytosis
d. dynamic equilibrium

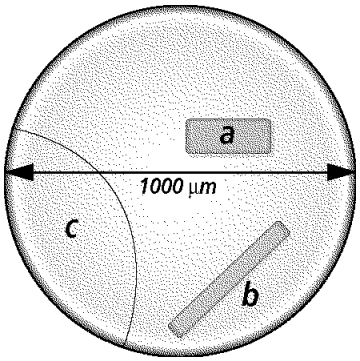


Figure 7-3

____ 14. What is the approximate size of A in Figure 7-3?
a. 400 μm
b. 500 μm
c. 700 μm
d. 1000 μm

____ 15. What is the approximate size of B in figure 7-3?
a. 400 μm
b. 500 μm
c. 700 μm
d. 1000 μm

____ 16. What would be the best way to estimate the size of C in Figure 7-3?
a. increase magnification
b. decrease magnification
c. estimate by what you can see
d. assume it is 2000 μm

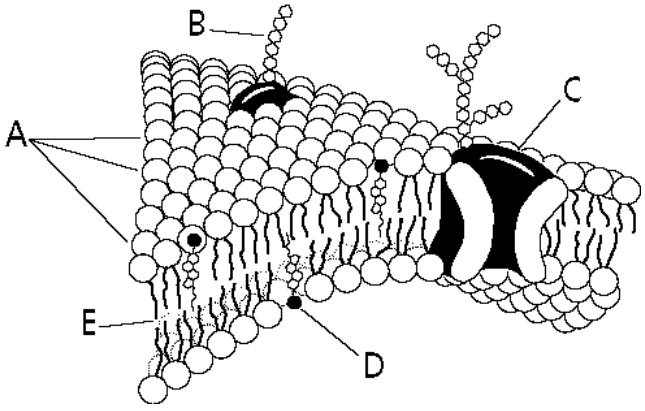


Figure 7-4

____ 17. What would happen to the structure in Figure 7-4 if part D is completely removed?
a. it would become solid
b. it would disintegrate
c. it would have holes in it
d. it would collapse in on itself

____ 18. Where are you least likely to find water in the structure shown in Figure 7-4
a. A
c. C

b. B
d. E

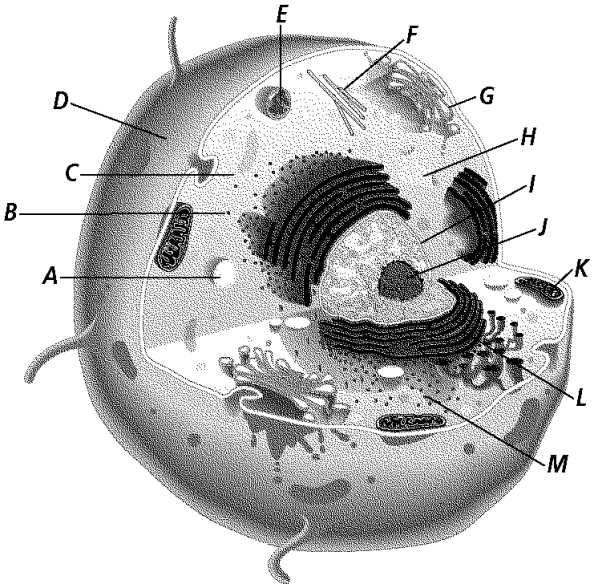


Figure 7-6

____ 19. Which structure in Figure 7-6 is the cell control center?
a. A
c. I
b. G
d. M

____ 20. Which structure in Figure 7-6 is responsible for chemical reactions?
a. A
c. J
b. E
d. L

____ 21. Which structure in Figure 7-6 transforms energy?
a. C
c. J
b. G
d. K

____ 22. Which structure in Figure 7-6 sorts and transports?
a. B
c. I
b. G
d. M

____ 23. Which parts of Figure 7-6 are in a prokaryotic cell?
a. D and M
c. C and J
b. A and K
d. G and L

____ 24. A cell contains the structure shown in Figure 7-7. What other cell structure that is not found in all eukaryotic cells is likely to be found in this cell?

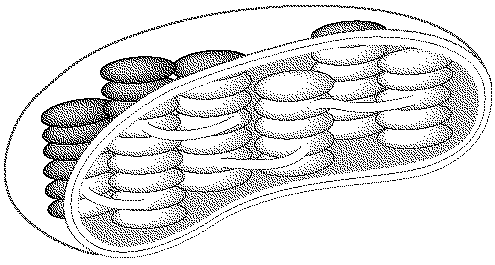


Figure 7-7

a. mitochondria
c. cell wall
b. ribosomes
d. plasma membrane

____ 25. Water moves into a cell placed in a(n) _____ solution.

a. osmotic
b. hypertonic
c. hypotonic
d. isotonic

____ 26. Water moves out of a cell if the cell is placed in a(n) _____ solution.
a. hypertonic
b. isotonic
c. hypotonic
d. passive

____ 27. If cells are placed in a strong sugar solution, water will _____.
a. pass from the sugar solution to the cells
b. pass from the cells to the sugar solution
c. stay in the cell
d. pass back and forth

____ 28. A cell moves particles from a region of lesser concentration to a region of greater concentration by _____.
a. facilitated diffusion
b. passive transport
c. osmosis
d. active transport

____ 29. If a cell is placed in salt water, water leaves the cell by _____.
a. osmosis
b. diffusion
c. active transport
d. phagocytosis

____ 30. Which of the following is <u>not</u> a form of passive transport?
a. facilitated diffusion
b. endocytosis
c. facilitated diffusion
d. osmosis

____ 31. The structure most responsible for maintaining cell homeostasis is the _____.
a. cytoplasm
b. mitochondrion
c. cell wall
d. plasma membrane

____ 32. The causes of cancer may include which of the following?
a. environmental influences
b. UV radiation
c. viruses
d. all of the above

____ 33. A gene is a segment of DNA that controls the production of _____.
a. carbohydrates
b. microtubules
c. centromeres
d. proteins

____ 34. Which of the following monitors a cell's progress from phase to phase during the cell cycle?
a. a series of enzymes
b. microtubules
c. lipid molecules
d. protein molecules

____ 35. If the sides of a cell double in length, its surface area becomes _____ times as large.
a. two
b. four
c. six
d. eight

____ 36. As a cell grows, its _____ increases more than its _____.
a. length, volume
b. width, surface area
c. volume, surface area
d. none of these

____ 37. By the end of prophase, each of the following has occurred except _____.
a. tighter coiling of the chromosomes
b. breaking down of the nuclear envelope
c. disappearing of the nucleolus
d. lining up of chromosomes in the cell

____ 38. Unlike plant cells, animal cells contain _____.
a. cell walls
b. centrioles
c. nucleoli
d. spindles

____ 39. The longest phase of the cell cycle is _____.
a. prophase
b. interphase
c. metaphase
d. mitosis

____ 40. A chromatid is attached to a spindle fiber by the _____.
a. nucleolus
b. deep furrow
c. centromere
d. centriole

____ 41. Which of the following structures is the most complex?

a. cell
b. organ system
c. organ
d. tissue

____ 42. Which conditions shown in Figure 8-4 might cause a cell to burst?

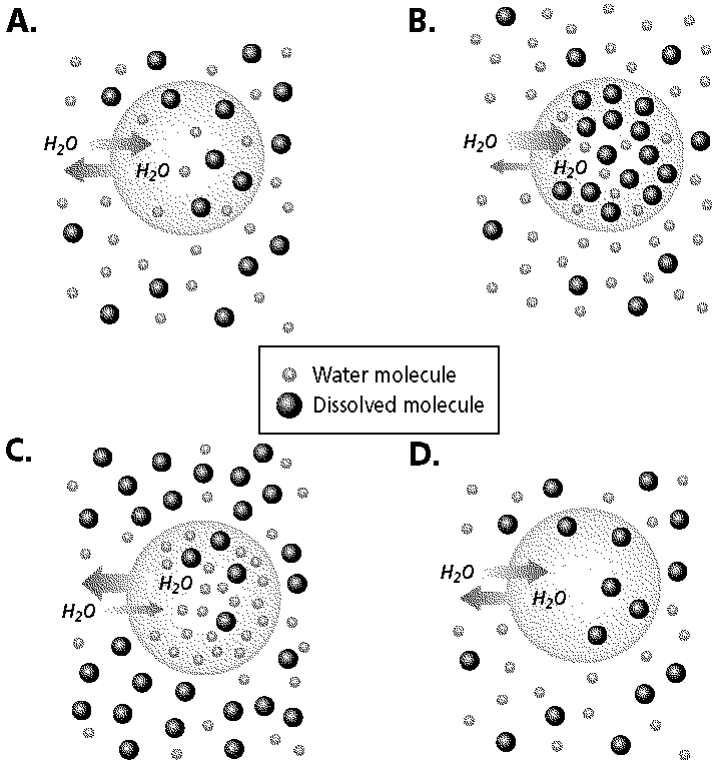


Figure 8-4

a. A
b. B
c. C
d. D

____ 43. What cell process is responsible for the effect shown in Figure 8-5?

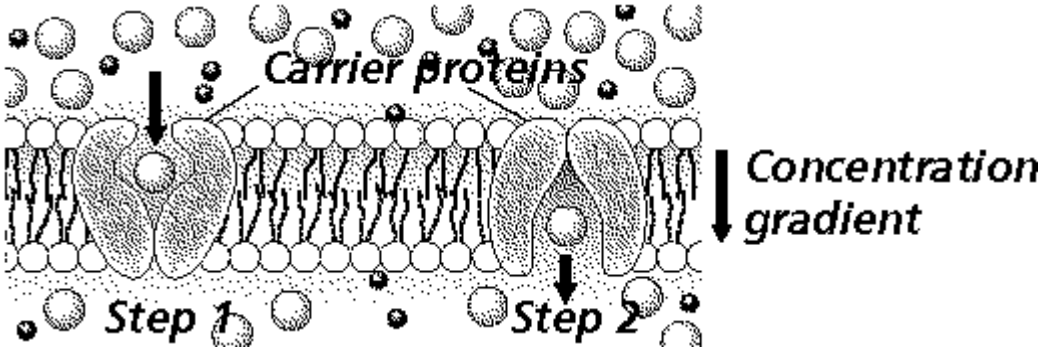
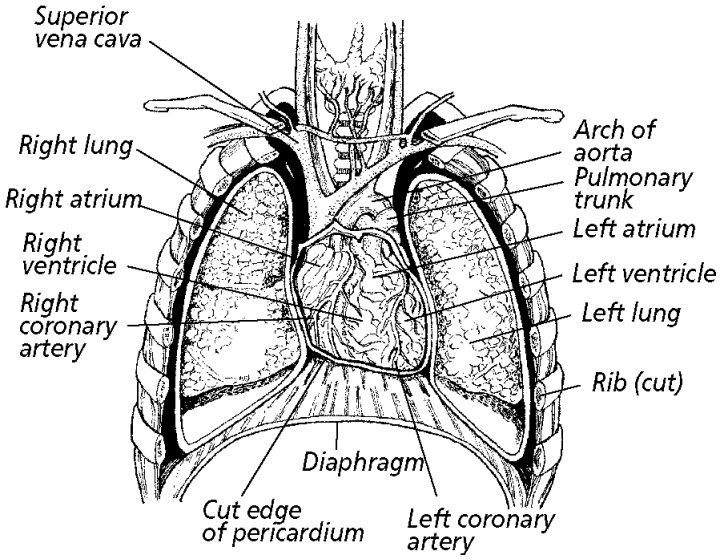


Figure 8-5

a. active transport
b. passive transport
c. facilitated diffusion
d. osmosis

____ 44. What level of organization is shown in Figure 8-7?



a. tissue
b. organ
c. organ system
d. organism

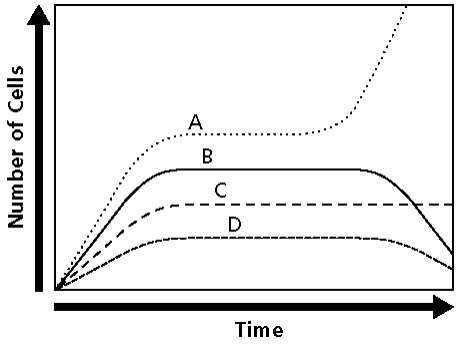


Figure 8-8

____ 45. Which of the cells depicted in the line graph in Figure 8-8 are most likely cancerous?
a. A
b. B
c. C
d. D

Matching

Match each item with the correct statement below.

a. exocytosis
b. gene
c. diffusion
d. isotonic solution
e. osmosis
f. hypertonic solution

____ 46. movement of particles from an area of higher concentration to one of lower concentration
____ 47. the concentration of dissolved substances outside the cell is higher than the concentration inside the cell
____ 48. the concentration of dissolved substances in the solution is the same as the concentration of dissolved substances inside the cell
____ 49. diffusion of water molecules through a selectively permeable membrane
____ 50. release of wastes or cell products from inside to outside a cell

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