SCB203.1752 Robyn O'Kane, PhD
Quiz #3 **Form A**

Name_____

No computers/dictionaries or scrap paper is allowed. You can write on this quiz booklet. NOTE: There are 30 questions in this quiz.

For Questions 1-7, use the following answer choices to classify the type of transport:
A. Active transport B. Passive transport C. Can be active or passive

1. Diffusion
2. Carrier-mediated
3. Exocytosis
4. Osmosis
5. Facilitated diffusion
6. Secondary active transport
7. Pinocytosis

8. What is the function of mast cells?
   A. Produce mucus.
   B. Form collagen fibers.
   C. Dilate local blood vessels.
   D. Phagocytose debris.

9. Which characteristic of epithelial tissue is important for exocrine cells undergoing holocrine secretion?
   A. Polarity B. Cellularity C. Attachment D. Regeneration

10. Which structure of a cell is most important for maintaining its homeostasis?
   A. Mitochondria
   B. Cytoskeletal elements
   C. Cell membrane
   D. Centrioles
   E. Lysosomes

11. A cell that secretes substances via exocytosis will have to have which organelle?
   A. Centriole
   B. Microfilament
   C. Golgi apparatus
   D. Ribosome
   E. Lysosome

12. Most neurons do not divide. Therefore, they will not have
   A. centrioles.
   B. nuclei.
   C. ribosomes.
   D. endoplasmic reticula.

13. Which of the following is true regarding the Na^+/K^+ exchange pump?
   A. It is considered a secondary active transporter.
   B. It transports Na^+ into the cell and K^+ out of the cell.
   C. It is a form of vesicular transport.
   D. It is important for creating a large gradient for Na^+ and K^+.
   E. All of the above are true.

14. Mitochondria
    A. produce 95% of the cell's energy.
    B. have a double membrane structure.
    C. are important for running active transporters.
    D. A and B are correct.
    E. All of the above are correct.

15. The nucleolus
    A. stores DNA.
    B. is found in the cytosol.
    C. produces rRNA
    D. All of the above are correct.

16. A macrophage is a cell that engulfs pathogens and then destroys them. All of the following are true of this type of cell EXCEPT
    A. Macrophages undergo endocytosis.
    B. Macrophages will have a lot of lysosomes.
    C. Macrophages will undergo pinocytosis.
    D. Macrophages will have Golgi apparati
    E. All of the above are true.

17. Which type of transport mechanism is also called "bulk" transport?
    A. Diffusion
    B. Facilitated diffusion
    C. Carrier-mediated transport
    D. Vesicular transport

18. All of the following regarding the cell theory are true EXCEPT
    A. All cells come from preexisting cells.
    B. Cells are the building blocks of all matter.
    C. Cells are the smallest units that perform physiological functions.
    D. Every cell maintains its own homeostasis.
    E. Homeostasis of tissues, organs, and organ systems depends on the combined, coordinated actions of many cells.

19. The majority of the cell membrane's weight is due to
    A. glycolipids.
    B. phospholipids.
    C. glycocalyx
    D. cholesterol.
    E. integral proteins.

20. A nerve cell (neuron) would be considered a(n) _____ cell.
    A. somatic B. sex C. germ D. epithelial

21. A major difference between fasciae and membranes is
A. fasciae are organs and membranes are tissues.
B. fasciae are physical barriers and membranes maintain the relative position of organs.
C. fasciae are layers of connective tissue and membranes are organs.
D. All of the above are correct.

22. Which of the following will decrease the rate of diffusion?
A. Decreasing the distance
B. Decreasing the temperature
C. Increasing the gradient
D. Increasing the potential difference (transmembrane potential)

Use the following figure (Figure 1) for Questions 23-27 below:

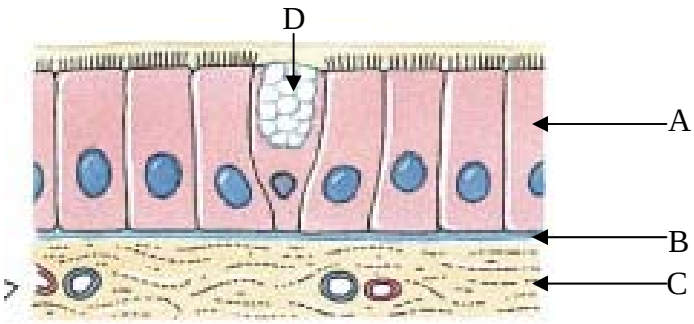


Figure 1

23. The type of tissue shown by Arrow A is
A. simple columnar epithelium.
B. pseudostratified columnar epithelium.
C. simple cuboidal epithelium.
D. stratified columnar epithelium.
E. None of the above.

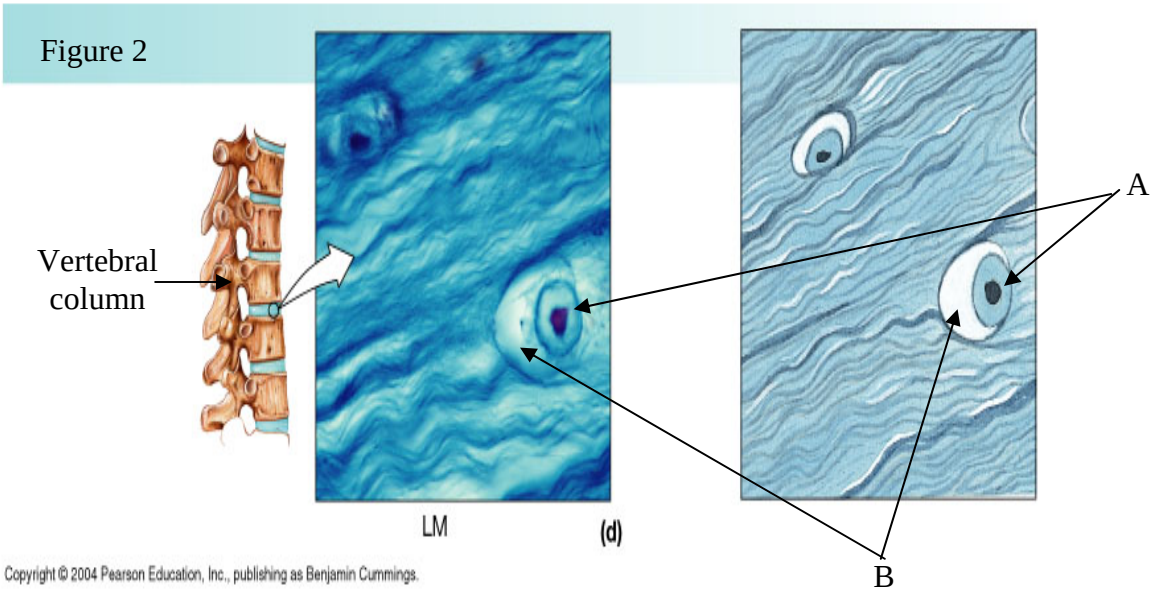
24. The structure indicated by Arrow B is important for which of the following characteristics of epithelial tissue?
A. Cellularity B. Regeneration C. Attachment D. Avascularity

25. Arrow C is pointing to the
A. basement membrane (basal lamina).
B. underlying connective tissue.
C. goblet cells.
D. transudate.

26. Arrow D is pointing to
A. a goblet cell.
B. adipose tissue.
C. cilia.
D. transudate.
E. a multicellular exocrine gland.

27. The function of the membrane shown above is
A. to line internal passageways and chambers that, in some way, are exposed to the environment.
B. to minimize friction between opposing tissues.
C. to cover they surface of the body.
D. to protect highly movable joints.
E. None of the above – the figure is showing a type of fascia.

Use the following figure (Figure 2) to answer Questions 28-30 below:



28. The type of cell pointed to by Arrow A is a(n)
    A. epithelial cell.
    B. chondrocyte.
    C. osteocyte.
    D. mast cell.
    E. macrophage.

29. The space indicated by Arrow B is the
A. basement membrane (basal lamina).
B. matrix.
C. lacuna.
D. osteon.
E. canaliculi.

30. The type of connective tissue shown in the picture is
A. dense connective tissue proper.
B. fluid connective tissue.
C. areolar connective tissue.
D. loose connective tissue proper.
E. supporting connective tissue.