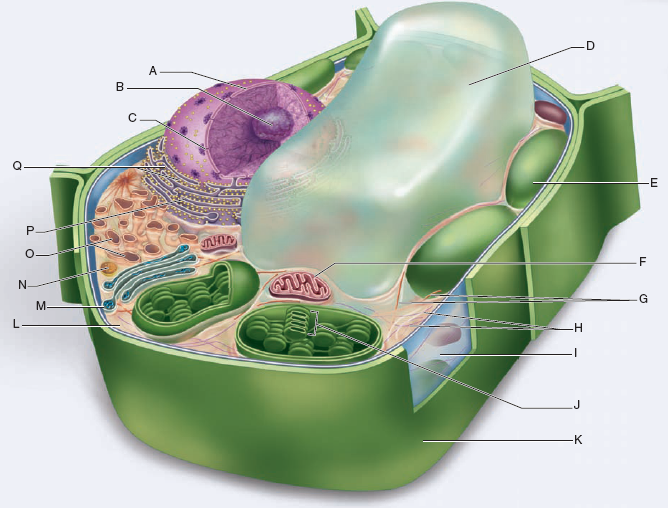
**Chapter 3 Pre-Test A**

**Multiple Choice**

*Identify the choice that best completes the statement or answers the question.*

**\_\_\_\_ 1.** Secretory vesicles are produced at the

|  |  |
| --- | --- |
| **a.** | Golgi body. |
| **b.** | mitochondrion. |
| **c.** | rough endoplasmic reticulum. |
| **d.** | smooth endoplasmic reticulum. |



**\_\_\_\_ 2. Use the diagram above to answer the next question.**

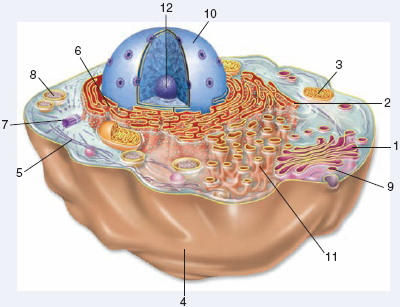
Which cell structure produces carbon dioxide?

|  |  |
| --- | --- |
| **a.** | Structure D |
| **b.** | Structure E |
| **c.** | Structure F |
| **d.** | Structure O |

**\_\_\_\_ 3.** Which of the following describes structure A?

|  |  |
| --- | --- |
| I | made of a phospholipid bilayer |
| II | has pores that mRNA can pass through |
| III | is continuous with the endoplasmic reticulum |

|  |  |
| --- | --- |
| **a.** | I and II only |
| **b.** | I and III only |
| **c.** | II and III only |
| **d.** | I, II, and III |



**\_\_\_\_ 4. Use the diagram above to answer the next question.**

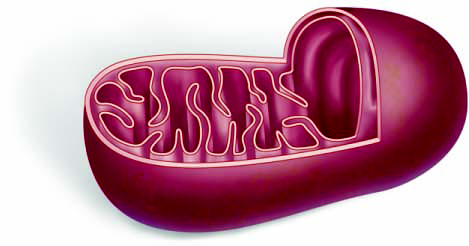
What is the function of structure 7?

|  |  |
| --- | --- |
| **a.** | to synthesize lipids |
| **b.** | to produce enzymes |
| **c.** | to breakdown dead cells |
| **d.** | to produce spindle fibres |

**\_\_\_\_ 5. Use the diagram above to answer the next question.**

According to fluid-mosaic model, the major structural component of structure 4

|  |  |
| --- | --- |
| **a.** | forms a bilayer with a fluid consistency. |
| **b.** | regulates the fluidity of the cell membrane. |
| **c.** | forms a mosaic pattern and has a hydrophobic head and hydrophilic tails. |
| **d.** | is partially embedded and positioned on the extracellular matrix side of the cell membrane. |



**\_\_\_\_ 6. Use the diagram above to answer the next question.**

What is the chemical reaction that occurs in this organelle?

|  |  |
| --- | --- |
| **a.** | C6H12O6 + CO2 O2 + H2O + ATP |
| **b.** | O2 + H2O + ATP C6H12O6 + CO2 |
| **c.** | CO2 + H2O + ATP C6H12O6 + O2 |
| **d.** | C6H12O6 + O2  CO2 + H2O + ATP |

**\_\_\_\_ 7. Use the diagram above to answer the next question.**

What is the function of this organelle?

|  |  |
| --- | --- |
| **a.** | to modify proteins for secretion |
| **b.** | to produce ATP for active transport |
| **c.** | to control the cell’s metabolic activities |
| **d.** | to regulate what enters and leaves the cell |

**\_\_\_\_ 8. Use the diagram above to answer the next question.**

Which of the following processes requires one of the products of this organelle?

|  |  |
| --- | --- |
| I | secretion of neurotransmitters at a synapse |
| II | movement of iodine ions into the thyroid gland |
| III | movement of sodium ions across the cell membrane in the kidney tubules |

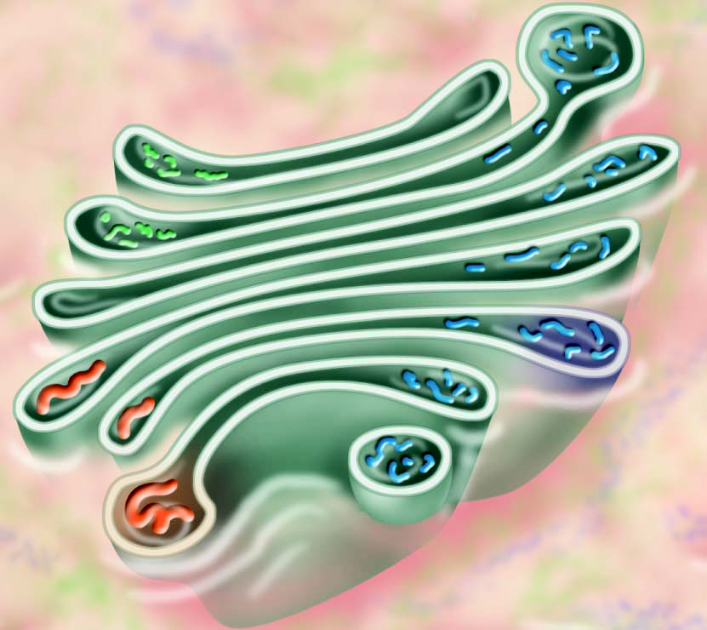
|  |  |
| --- | --- |
| **a.** | I and II only |
| **b.** | I and III only |
| **c.** | II and III |
| **d.** | I, II, and III |



**\_\_\_\_ 9. Use the diagram above to answer the next question.**

Which of the following molecules is a product of this cell structure?

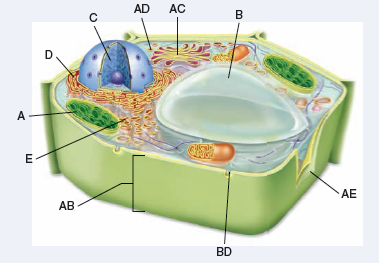
|  |  |
| --- | --- |
| **a.** | water |
| **b.** | oxygen |
| **c.** | carbon dioxide |
| **d.** | carbon monoxide |

****

**\_\_\_\_ 10. Use the diagram above to answer the next question.**

The cell structure shown is

|  |  |
| --- | --- |
| **a.** | the ribosome. |
| **b.** | the Golgi body. |
| **c.** | the rough endoplasmic reticulum. |
| **d.** | the smooth endoplasmic reticulum. |



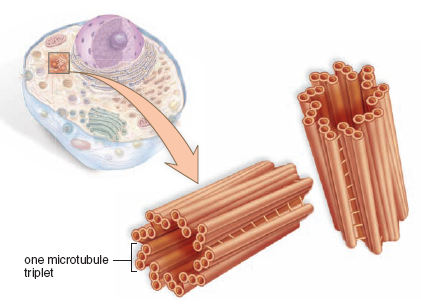
**\_\_\_\_ 11. Use the diagram above to answer the next question.**

What is the function of structure AC?

|  |  |
| --- | --- |
| **a.** | to produce ATP |
| **b.** | to produce DNA |
| **c.** | to digest lipids |
| **d.** | to package and sort proteins |

**\_\_\_\_ 12.** Which of the following descriptions refers to cilia?

|  |  |
| --- | --- |
| **a.** | 9 + 0 pattern of microtubule triplets |
| **b.** | 9 + 0 pattern of microtubule doublets |
| **c.** | 9 + 2 pattern of microtubule triplets |
| **d.** | 9 + 2 pattern of microtubule doublets |



**\_\_\_\_ 13. Use the diagram above to answer the next question.**

If a chemical is injected into a cell that inhibits the cell structure shown from functioning properly, which of the following events would occur?

|  |  |
| --- | --- |
| I | microtubules would not assemble |
| II | cells would not be able to undergo mitosis |
| III | mitotic spindles would not form during cell division |

|  |  |
| --- | --- |
| **a.** | I and II only |
| **b.** | I and III only |
| **c.** | II and III only |
| **d.** | I, II, and III |

**\_\_\_\_ 14.** Which of the following statements refers to the component of the cytoskeleton that is made up of tubulin?

|  |  |
| --- | --- |
| I | it has 13 rows of tubulin dimers |
| II | it is regulated by the centrosome |
| III | its structural composition consists of a globular protein |

|  |  |
| --- | --- |
| **a.** | I and II only |
| **b.** | I and III only |
| **c.** | II and III only |
| **d.** | I, II, and III |

**\_\_\_\_ 15.** Which of the following statements describes what happens to the surface area-to-volume ratio of a cell that has the dimensions 1 m x 1 m x 1 m and tripled in size with the dimensions 3 m x 3 m x 3 m?

|  |  |
| --- | --- |
| **a.** | The SA:V went from 6:1 to 2:1. |
| **b.** | The SA:V went from 6:1 to 3:1. |
| **c.** | The SA:V went from 1:1 to 1:3. |
| **d.** | The SA:V went from 1:1 to 3:1. |

**\_\_\_\_ 16.** Which of the following will increase the rate at which glucose enters the cell?

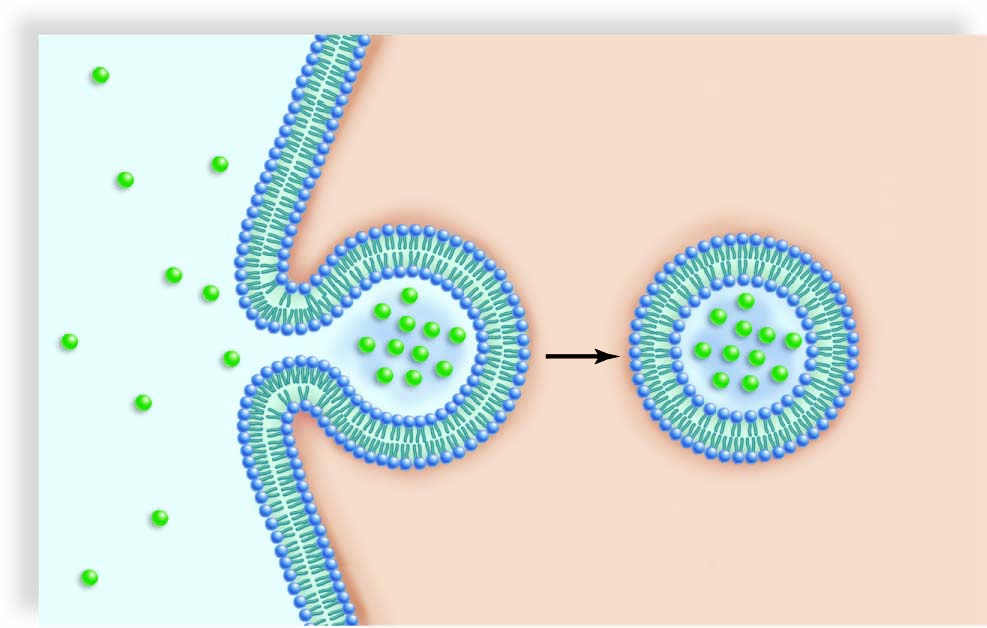
|  |  |
| --- | --- |
| **a.** | a large spherical cell |
| **b.** | a cell with a lot of folds on its surface |
| **c.** | a cell with a small surface area-to-volume ratio |
| **d.** | a cell with a large nuclear envelope and small cell membrane |

**\_\_\_\_ 17.** Which of the following could increase the rate at which a cell could exchange nutrients and waste?

|  |  |
| --- | --- |
| **a.** | divide in half |
| **b.** | double in size |
| **c.** | decrease the amount of folds on the surface of the cell |
| **d.** | increase the amount of cytoplasm to maximize the volume |

**\_\_\_\_ 18.** What do facilitated and active transport have in common?

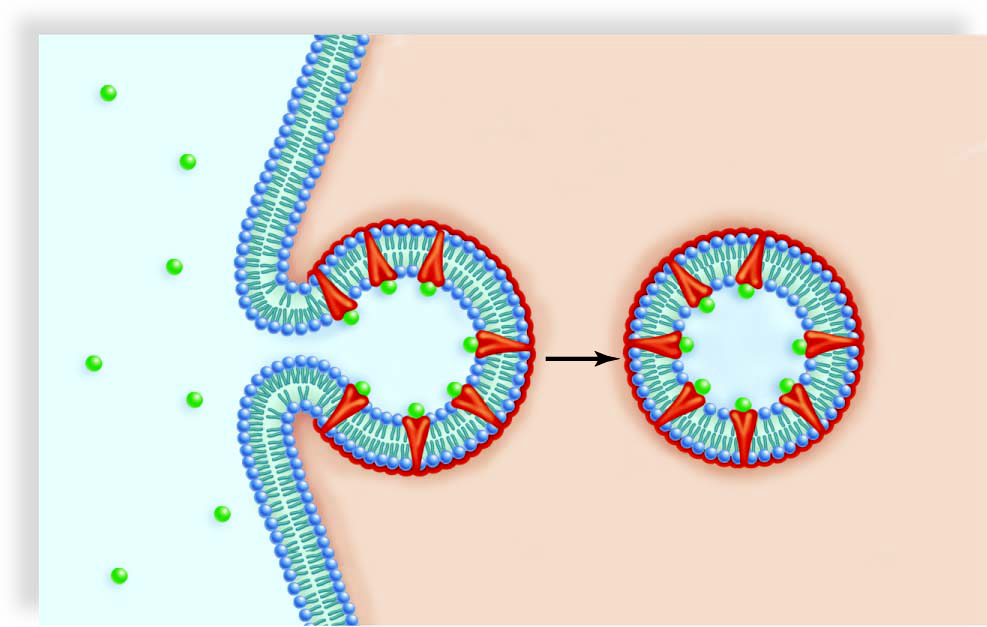
|  |  |
| --- | --- |
| **a.** | They both need ATP. |
| **b.** | They both require a carrier protein. |
| **c.** | They both involve vesicle formation. |
| **d.** | They both go against the concentration gradient. |



**\_\_\_\_ 19. Use the diagram above to answer the next question.**

Which of the following types of molecules is taken in by the process shown?

|  |  |
| --- | --- |
| **a.** | glucose |
| **b.** | glycerol |
| **c.** | sodium ions |
| **d.** | carbon dioxide |



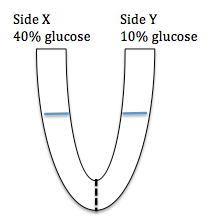
**\_\_\_\_ 20. Use the diagram above to answer the next question.**

Which of the following processes is shown above?

|  |  |
| --- | --- |
| **a.** | exocytosis |
| **b.** | pinocytosis |
| **c.** | phagocytosis |
| **d.** | receptor-mediated endocytosis |

**\_\_\_\_ 21.** By what process does oxygen from the alveoli of the lungs enter the capillaries?

|  |  |
| --- | --- |
| **a.** | osmosis |
| **b.** | diffusion |
| **c.** | active transport |
| **d.** | facilitated transport |



**\_\_\_\_ 22. Use the diagram above to answer the next question.**

A U-tube has a membrane that is only permeable to water separating side X and Side Y. Side X is filled with a 40% glucose solution and side Y is filled with a 10% glucose solution. Which of the following statements describes what happens over time?

|  |  |
| --- | --- |
| **a.** | there will be a net movement of water from side X to side Y |
| **b.** | there will be a net movement of water from side Y to side X |
| **c.** | there will be a net movement of glucose from side X to side Y |
| **d.** | there will be a net movement of glucose from side Y to side X |

**\_\_\_\_ 23.** Which of the following processes will occur when an animal cell is placed in a hypertonic solution?

|  |  |
| --- | --- |
| **a.** | lysis |
| **b.** | crenation |
| **c.** | hemolysis |
| **d.** | plasmolysis |

**\_\_\_\_ 24.** Which of the following processes will occur when a plant cell is placed in a hypertonic solution?

|  |  |
| --- | --- |
| **a.** | lysis |
| **b.** | crenation |
| **c.** | hemolysis |
| **d.** | plasmolysis |

**\_\_\_\_ 25.** Which of the following events will occur if a plant cell is placed in a hypotonic solution?

|  |  |
| --- | --- |
| **a.** | turgor pressure develops |
| **b.** | water will leave the plant cell |
| **c.** | the cytoplasm will shrink |
| **d.** | there will be no net movement of water |

**Chapter 3 Pre-Test A**

**Answer Section**

**MULTIPLE CHOICE**

**1.** ANS: A PTS: 1 DIF: K REF: 3

OBJ: Cell Structure and Function LOC: B1-1 TOP: 3.2

KEY: Eukaryotic Cells

**2.** ANS: C PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B1-1 TOP: 3.2

KEY: Eukaryotic Cells

**3.** ANS: D PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B1-1 TOP: 3.2

KEY: Eukaryotic Cells

**4.** ANS: D PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B1-1 TOP: 3.2

KEY: Eukaryotic Cells

**5.** ANS: A PTS: 1 DIF: HMP REF: 3

OBJ: Cell Structure and Function LOC: B9-1 TOP: 3.4

KEY: Plasma Membrane Structure and Function

**6.** ANS: D PTS: 1 DIF: HMP REF: 3

OBJ: Cell Structure and Function LOC: B1-2 TOP: 3.2

KEY: Eukaryotic Cells

**7.** ANS: B PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B1-1 TOP: 3.2

KEY: Eukaryotic Cells

**8.** ANS: D PTS: 1 DIF: HMP REF: 3

OBJ: Cell Structure and Function LOC: B9-8 TOP: 3.5

KEY: Permeability of Plasma Membrane

**9.** ANS: B PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B1-1 TOP: 3.2

KEY: Eukaryotic Cells

**10.** ANS: B PTS: 1 DIF: K REF: 3

OBJ: Cell Structure and Function LOC: B1-4 TOP: 3.2

KEY: Eukaryotic Cells

**11.** ANS: D PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B1-1 TOP: 3.2

KEY: Eukaryotic Cells

**12.** ANS: D PTS: 1 DIF: K REF: 3

OBJ: Cell Structure and Function LOC: B1-1 TOP: 3.3

KEY: Cytoskeleton

**13.** ANS: D PTS: 1 DIF: HMP REF: 3

OBJ: Cell Structure and Function LOC: B1-1 TOP: 3.3

KEY: Cytoskeleton

**14.** ANS: D PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B1-1 TOP: 3.3

KEY: Cytoskeleton

**15.** ANS: A PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B10-1 TOP: 3.1

KEY: Cellular Level of Organization

**16.** ANS: B PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B10-2 TOP: 3.1

KEY: Cellular Level of Organization

**17.** ANS: A PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B10-2 TOP: 3.1

KEY: Cellular Level of Organization

**18.** ANS: B PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B9-8 TOP: 3.5

KEY: Permeability of Plasma Membrane

**19.** ANS: A PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B9-7 TOP: 3.5

KEY: Permeability of Plasma Membrane

**20.** ANS: D PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B9-7 TOP: 3.5

KEY: Permeability of Plasma Membrane

**21.** ANS: B PTS: 1 DIF: K REF: 3

OBJ: Cell Structure and Function LOC: B9-4 TOP: 3.5

KEY: Permeability of Plasma Membrane

**22.** ANS: B PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B9-4 TOP: 3.5

KEY: Permeability of Plasma Membrane

**23.** ANS: B PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B9-6 TOP: 3.5

KEY: Permeability of Plasma Membrane

**24.** ANS: D PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B9-4 TOP: 3.5

KEY: Permeability of Plasma Membrane

**25.** ANS: A PTS: 1 DIF: U REF: 3

OBJ: Cell Structure and Function LOC: B9-4 TOP: 3.5

KEY: Permeability of Plasma Membrane