High School Biology Cell Test

Name _____

Date _____

Period _____

**Multiple Choice**

*Please circle the best answer for the following questions.*

What did Robert Hooke first look at under the microscope to discover the cell?

a) Bark
b) Cheek tissue
c) Cork
d) Grass

Which of the following are part of the cell theory?

a) Everything is made of cells
b) All existing cells are produced by other living cells
c) Atoms are the basic unit of life
d) All cells reproduce by mitosis

The function of _____ is protein synthesis.

a) Endoplasmic reticulum
b) Ribosome
c) Nucleus
d) Vacuole

What is the mitochondria's role in the cell?

a) Cell respiration
b) Protein synthesis
c) Photosynthesis
d) Vesicle transportation

The cell membrane is best described as _____.

a) The phospholipid bilayer that regulates the transportation of nutrients in and out of the cell
b) The semifluid solution outside the plasma membrane
c) The rigid outer layer of the cell that provides stability and maintains its shape
d) All of the above

**True or False**

*Please circle either T or F for each of the following statements.*

T or F Schwann first noted that plants are made of cells.

T or F Prokaryotic cells have membrane bound organelles.
T or F The cell membrane is selectively permeable.
T or F The cell wall structure is identical in both plant and bacterial cells.
T or F Diffusion allows both the solvent and solute to distribute evenly, but osmosis only allows for the solvent to move between the barriers.

**Matching**

*Place the correct letter from the definition side in front of the organelle on the left side.*

| | |
|---|---|
| _____ Nucleus | a. processes, packages, and secretes proteins |
| _____ Vacuole | b. carries out photosynthesis |
| _____ Centriole | c. command center of cell |
| _____ Chloroplast | d. short cylinders that move organelles |
| _____ Golgi apparatus | e. fluid-filled sac that stores nutrients |

**Fill in the Blank**

*Please fill in the following blanks with the best word or phrase.*

The two organelles involved with energy conversion in a plant cell are _____ and _____.

DNA in a prokaryotic cell is found in the _____.

_____ is a cell structure found in both prokaryotic and eukaryotic cells.

In _____ _____ molecules diffuse across the plasma membrane with assistance from membrane proteins, such as channels and carriers.

In a _____ solution water will leave the cell making it shrivel up.

**Short Answer**

*For the following question please respond in a minimum of 5-6 sentence paragraph*

Compare and contrast the three types of osmotic solutions and give an example to support your claim.

**Essay**

*For the following short essay please answer with at least two 5-6 sentence paragraphs.*

What is the role of the bilayer cell membrane and how does it aid in the cell's processes? Please explain the different proteins found in the cell membrane, their roles, and the different types of transport in and out of the cell.