Multiple choice Cells questions

1. To enter or leave a cell, substances must pass through
a. a microtubule.
b. the Golgi apparatus.
c. a ribosome.
d. the nucleus.
e. the plasma membrane.

2. Bacterial cell are prokaryotic; in comparison to a typical eukaryotic cell they would
a. be smaller.
b. have a smaller nucleus.
c. lack a plasma membrane.
d. have fewer internal membranous compartments.
e. have a greater variety of organelles.

3. The maximum size of a cell is limited by
a. its need for enough surface area for exchange with its environment.
b. the number of organelles that can be packed inside.
c. the materials needed to build it.
d. the amount of flexibility it needs to be able to move.
e. the amount of food it needs to survive.

4. You would expect a cell with an extensive Golgi apparatus to
a. make a lot of ATP.
b. secrete a lot of material.
c. move actively.
d. perform photosynthesis.
e. store large quantities of food

5. Which of the following correctly matches an organelle with its function?
a. mitochondrion . . . photosynthesis
b. nucleus . . . cellular respiration
c. ribosome . . . manufacture of lipids
d. lysosome . . . movement
e. central vacuole . . . storage

6. Mitochondria and chloroplasts share several common features, for example,
a. both are capable of semiautonomous growth and reproduction.
b. neither are components of the endomembrane system.
c. each contains a small amount of DNA
d. each organelle synthesises some of its own protein.
e. all of the above

7. Of the following organelles, which group is involved in manufacturing substances needed by the cell?
a. lysosome, vacuole, ribosome
b. ribosome, rough ER, smooth ER
c. vacuole, rough ER, smooth ER
d. smooth ER, ribosome, vacuole
e. rough ER, lysosome, vacuole
8. A cell has mitochondria, ribosomes, smooth and rough ER, and other parts. Based on this information,

it could not be
a. a cell from a pine tree.
b. a grasshopper cell.
c. a yeast (fungus) cell.
d. a bacterium.
e. Actually, it could be any of the above.

9. Dye injected into a plant cell might be able to enter an adjacent cell through a
a. tight junction.
b. microtubule.
c. desmosome.
d. plasmodesma.
e. gap junction.

10. A researcher made an interesting observation about a protein made by the rough ER and eventually used to build a cell's plasma membrane. The protein in the membrane was actually slightly different from the protein made in the ER. The protein was probably changed in the
a. Golgi apparatus.
b. smooth ER.
c. mitochondrion.
d. nucleus.
e. chloroplast.

11. The electron microscope has been particularly useful in studying bacteria, because
a. electrons can penetrate tough bacterial cell walls.
b. bacteria are so small.
c. bacteria move so quickly they are hard to photograph.
d. with few organelles present, bacteria are distinguished by differences in individual macromolecules.
e. their organelles are small and tightly packed together

12. Cell fractionation is the most appropriate procedure for preparing ____ for study.
a. isolated cells which are normally found tightly attached to neighbouring cells
b. cells without a functional cytoskeleton
c. isolated organelles
d. the basic macromolecules
e. bone and other similar cells which are situated within a mineral framework

13. Which of the following clues would tell you whether a cell is prokaryotic or eukaryotic?
a. the presence or absence of a rigid cell wall
b. whether or not the cell is partitioned by internal membranes
c. the presence or absence of ribosomes
d. whether or not the cell carries out cellular metabolism
e. whether or not the cell contains DNA

14. Sara would like to film the movement of chromosomes during cell division. Her best choice for a microscope would be a

a. light microscope, because of its resolving power.
b. transmission electron microscope, because of its magnifying power.
c. scanning electron microscope, because the specimen is alive.
d. transmission electron microscope, because of its great resolving power.
e. light microscope, because the specimen is alive.

15. A plant cell was grown in a test tube containing radioactive nucleotides, the parts from which DNA is built. Later examination of the cell showed the radioactivity to be concentrated in the
a. rough ER.
b. peroxisome.
c. smooth ER.
d. central vacuole.
e. nucleus