**Chapter three: A Tour of the Cell**

1. **Which type of microscope uses electrons to provide a three-dimensional view of the surface of the object?**
2. light microscope
3. transmission electron microscope
4. **scanning electron microscope**
5. scanning-probe microscope
6. **Which type of microscope has a useful magnification limit of about 1,000X?**
7. **light microscope**
8. transmission electron microscope
9. scanning electron microscope
10. scanning-probe microscope
11. **"TEM" refers to a photomicrograph taken by a \_\_\_\_\_\_.**
12. light microscope
13. **transmission electron microscope**
14. scanning electron microscope
15. scanning-probe microscope
16. **Which of the following organelles is the largest and most easily observed with the light microscope?**
17. Mitochondria
18. Chloroplast
19. **Nucleus**
20. Lysosomes
21. **Which of the following organelles has a double membrane with pores?**
22. Lysosome
23. Golgi apparatus
24. Mitochondria
25. **Nucleus**
26. **\_\_\_\_\_\_ is/are the site of protein synthesis in the cytoplasm.**
27. Smooth endoplasmic reticulum
28. Golgi apparatus
29. **Ribosomes**
30. Lysosomes
31. **The \_\_\_\_\_\_ function(s) in the packaging, storage, and distribution of molecules produced by the ER.**
32. **Golgi apparatus**
33. Peroxisomes
34. Smooth endoplasmic reticulum
35. Mitochondria
36. **Which of the following is an energy-related organelle?**
37. Golgi apparatus
38. Lysosome
39. Nucleolus
40. **mitochondria**
41. \_\_\_\_\_\_ **is a green pigment found within grana that makes chloroplasts and leaves green.**
42. Cellulose
43. Ribosomal RNA
44. Hemoglobin
45. **Chlorophyll**
46. **The structure of flagella is most similar to that of \_\_\_\_\_\_.**
47. **Cilia**
48. basal bodies
49. microvilli
50. rough endoplasmic reticulum

**Chapter four: the working cell**

**1) Which of the following describes the fluid-mosaic model of the plasma membrane structure?**

1. phospholipid monolayer with embedded proteins
2. **phospholipid bilayer with embedded proteins**
3. phospholipid trilayer with embedded proteins
4. triglyceride bilayer with embedded proteins
5. **Which statement best describes the plasma membrane?**
6. It is freely permeable to all substances.
7. **It is selectively permeable to certain substances.**
8. It is nonpermeable to all substances.
9. It is a solid-mosaic model
10. **Pinocytosis is a type of \_\_\_\_\_\_.**
11. **Endocytosis**
12. Exocytosis
13. simple diffusion
14. facilitated diffusion
15. **\_\_\_\_\_\_ is the net movement of any type of molecule from a region of higher concentration to a region of lower concentration.**
16. **simple diffusion**
17. osmosis
18. active diffusion
19. pinocytosis
20. **A dye is dissolved in water. The \_\_\_\_\_\_ is the solute and the solvent is the \_\_\_\_\_\_ molecules.**
21. water, dye
22. **dye, water**
23. dye, dye
24. water, water
25. **Oxygen enters the blood from the alveoli in the lungs by the process of \_\_\_\_\_\_.**
26. Phagocytosis
27. osmosis
28. **diffusion**
29. facilitated diffusion
30. **The diffusion of water across a differentially permeable membrane is called \_\_\_\_\_\_.**
31. simple diffusion
32. facilitated diffusion
33. **osmosis**
34. endocytosis
35. **Substances transported by facilitated diffusion………..**
36. **move passively through specific channels from an area of greater concentration to one of lower concentration**
37. are limited to solvents
38. must have movements coupled to those of other substances
39. may flow to a region of higher concentration by the expenditure of energy
40. **Energy of motion is referred to as \_\_\_\_\_\_\_\_\_\_ energy.**
41. Potential
42. heat or thermal
43. **kinetic**
44. electrical
45. **The \_\_\_\_\_\_ law of thermodynamics states that energy is constant, can neither be created nor destroyed.**
46. **First**
47. Second
48. Third
49. Fourth
50. **The study of energy relationships and their exchanges is called \_\_\_\_\_\_.**
51. Photosynthesis
52. Metabolism
53. **Thermodynamics**
54. Oxidation

**Which is true about "Cell "?**

A. a cell is the structural unit of a living organism.
B. a cell is the functional unit of a living organism.
C. **a cell is the structural and functional unit of unicellular organisms.**
D. a cell is the structural and functional unit of all living organisms.

**5. Which one of the following is NOT an organelle?**

A. mitochondria
B**. RNA**

C. golgi complex
D. lysosomes

**6. Nuclear membrane is absent in**

A. **bacteria**

B. fungi

C. plants

D. all of the above