AP/CN Bio Unit 2 (Campbell Ch 6 & 7, IB12 Sections 1.1-1.4)

Test Study Guide

1. **Multiple Choice & Short Answer: Bulleted Lists**
2. Cells:
3. Cell Theory

a. parts & evidence for theory

1. Prokaryote:
2. list the typical bacteria ultrastructure (i.e. E. coli )
3. describe the functions of bacteria ultrastructure
4. Eukaryote:
5. list the typical ultrastructure of eukaryotic cell
6. describe the functions of these structures
7. compare & contrast plant & animal cells
8. Prokaryote vs. Eukaryote:
9. compare & contrast (i.e. cell ultrastructure, size ribosomes, DNA, etc.)
10. Transport:
11. Plasma membrane:
12. fluid mosaic model
13. Structure, sidedness, functions of specific parts
14. hydrophobic and hydrophilic aspects/parts:
15. what are they
16. where are they
17. why do they occur
18. how maintains structure of plasma membrane
19. Communication between cells:
20. animal vs. plant cell communication & functions of those various communication parts & processes
21. compare & contrast how cells communicate using connecting structures
22. Movement of materials:
23. concentration gradient: what it is, how it effects the movement of particles
24. compare & contrast passive and active transport

1) give specific examples of each type (i.e. electrogenic pump… A.K.A. “protein pumps”, endocytosis, etc) & describe these processes

1. Different types of solutions:
2. 3 types: solute concentrations, osmotic potential, & how they affect cells that are submerged in them
3. Describe how cells react to different solutions
4. H2O movement, turgor pressure, lysis, flaccid, turgid, dynamic equilibrium, etc.
5. Microscopes & micrographs:
6. differentiate types of microscopes
7. differentiate the relative sizes of molecules, viruses, bacteria, organelles, and different types of cells
8. **Short Answer: Paragraphs**
9. Relate the following terms: phospholipid bilayer, simple diffusion, osmosis, aquaporin, facilitated diffusion, concentration gradient, polar molecule, integral channel protein, and energy.
10. Explain how materials are transported within a cell and even to the plasma membrane during exocytosis. Be sure to include all cell parts involved in the endomembrane system.
11. Explain compartmentalization in eukaryotic cells. Describe how it is formed and give 4 examples of advantages/benefits of being compartmentalized.
12. **Essay:**
13. Cell transport is key to cell and overall organism survival. Describe the processes of particle movement in terms of types of solutions, concentration gradients, energy & transport protein usage, osmotic potential and water potential. Lastly, use an example of living cells to describe the overall affect of the 3 environmental conditions (solutions) a cell can find itself in. **Labeled** diagrams of these examples can be very useful to this discussion.
14. Test Format:
15. Multiple Choice (34) & Short Answer: Bullets (6) 40 pts
16. Short Answer: Paragraphs (3) 30 pts
17. Essay (1) 20 pts

TOTAL = 90 pts