**Biochemistry Test Outline (Life Sciences 11)**

**Summary:**

1. **Not tested**: biological levels of organization
2. What does polarity mean? What are the consequences of the fact that water is polar?
3. What are 3 other reasons why water is essential to living things?
4. What is diffusion? What direction will a molecule diffuse?
5. Define and draw an image demonstrating a membrane that is: permeable, impermeable, selectively permeable.
6. Compare and contrast diffusion with osmosis.
7. Explain the meaning of the words: isotonic, hypertonic, hypotonic. Draw diagrams to show your understanding of these words.
8. How will an animal cell behave in an isotonic, hypertonic, or hypotonic solution? Compare this with the behaviour of a plant cell.
9. Compare and contrast passive transport with active transport. What are 3 ways a cell will engage in passive transport (hint: look at the summary slide)? How does a cell engage in active transport?
10. Give examples of proteins involved in passive transport and active transport. Include their names and a brief description of what these proteins do.

**Structure of Test:**

100% multiple choice, most likely approximately 35 questions

**Vocabulary:**
*(Disclaimer: This is not meant to be an exhaustive list. Vocabulary words may appear on the test that are not in this list.)*

* Polar
	+ Charge
	+ Negative
	+ Positive
	+ Electron
* Hydrogen bond
* Universal solvent
* Cohesion
* Adhesion
* Capillary action
* Surface tension
	+ Surface area
* Chemical reactions (be familiar with examples)
* Density
* Heat capacity
* Solution
	+ Solute
	+ Solvent
* Concentration
	+ High concentration
	+ Low concentration
	+ Concentrated
	+ Dilute
	+ Concentration gradient
* Permeability
	+ Permeable
	+ Impermeable
	+ Selectively permeable (semipermeable)
* Osmosis
	+ Isotonic
	+ Hypertonic
	+ Hypotonic
* Cell structures:
	+ Cell membrane
	+ Cytoplasm
	+ Cell wall
	+ Vacuole
* Plant cell
* Animal cell
* Passive transport
	+ Diffusion
	+ Facilitated diffusion
* Active transport
* Transport protein
	+ Carrier protein
		- GLUT1
	+ Channel protein
		- Aquaporin
	+ Pump (also known as “protein pump”)
		- Proton pump
		- Sodium-potassium pump

**Vocabulary Not Tested**

* Shriveled, normal, lysed, plasmolysed, flaccid, turgid, turgor pressure

**Primary Study Material:**

* Biochemistry Powerpoint + sources listed on powerpoint (especially crash course video)
* In-class notes
* Textbook section 5-4 (pg 99-104)