Written Assignment #4

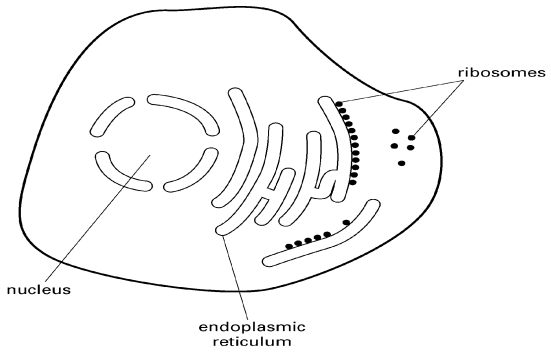
1. An example of simple diffusion is_____ The transported molecule move up/down its concentration gradient. This is active/passive transport.
2. An example of symport is_____ The transported molecule move up/down its concentration gradient. This is active/passive transport. The energy comes from_____
3. An example of facilitated diffusion is_____ The transported molecule move up/down its concentration gradient. This is active/passive transport.
4. An example of antiport is_____ The transported molecule move up/down its concentration gradient. This is active/passive transport. The energy comes from_____

5. Draw and label all the parts of the action potential, as well as state which channels are responsible for this portion.

6. What would happen if you engineered a sodium channel with no inactivation?

7. What is the current best estimate for the number of genes in the human genome? About what percentage of the human genome encodes genes? What does the rest of the genome do?

8. Use the numbers in the choices below to indicate where in the schematic diagram of a eukaryotic cell those processes take place.
    a. Transcription _____
    b. Translation _____
    c. RNA splicing _____
    d. Polyadenylation _____
    e. RNA capping _____



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9. A poison added to an *in vitro* translation mixture containing mRNA molecules with the sequence 5′-AUGAAAAAAAAAAAUAA-3′ has the following effect: the only product made is a Met-Lys dipeptide that remains attached to the ribosome. What is the most likely way in which the poison acts to inhibit protein synthesis?