**HSPVA Exam V: Biomolecules Review Sheet……….Due on the day of the exam: Tuesday, Dec. 4 (4th, 5th); Mon, December 3 (6th)**

**If you are typing your answers, PLEASE either type your answer on a new line OR in a different color.**

**THE CHEMISTRY OF LIFE:**

1. What are the 4 types of biomolecules (called macromolecules in your book)?
2. Where does energy come from when a molecule is used for energy?
3. How are monomers and polymers related?
4. Differentiate between monosaccharides and polysaccharides.
5. List 1 monosaccharide and 2 polysaccharides.
6. What is the chemical formula for glucose?
7. Know what the structures for each biomolecule look like (see POGIL and PPT).
8. What are 4 differences between saturated and unsaturated fats?
9. What does DNA stand for?
10. List 2 proteins.
11. What are the bonds that link amino acids together called?
12. What is the process called that links together monosaccharides and amino acids to form polymers?
13. Fill in the following chart:

|  |  |  |  |
| --- | --- | --- | --- |
| **MONOMER** | **BIOMOLECULE** | **ELEMENTS PRESENT** | **FUNCTION & EXAMPLE** |
|  | **Carbohydrate** |  |  |
|  | **Lipid** |  |  |
|  | **Protein** |  |  |
|  | **Nucleic Acid** |  |  |

1. What is an **organic molecule**?
2. What do **monomers** link together to form?
3. What are reactants?
4. What are products?
5. What is a substrate?
6. Which type of biomolecule is an enzyme?
7. What is the function of an enzyme?
8. What is an active site?
9. What is activation energy?
10. What are two factors that affect the activity of an enzyme?
11. How does increasing temperature affect the rate of an enzyme catalyzed chemical reaction?
12. How does changing the pH higher or lower than the optimum pH for an enzyme change the rate of an enzyme catalyzed reaction?
13. How does increasing the substrate concentration change the rate of an enzyme catalyzed reaction?
14. What does it mean for an enzyme to be denatured?
15. What does denaturing do to an enzyme?
16. Are enzymes specific to a certain substrate or will any enzyme work with any substrate?
17. Are enzymes used up in a chemical reaction?
18. Look over the enzyme worksheet and make sure that you understand the correct answer to each question-especially the graph based questions.