Key ♡

Chapter 19: Bio Chemistry

Warm Up- Notes Quiz:

1. The study of carbon containing compounds and their reactions:
   a. Chemistry
   b. Bio chemistry
   c. Organic chemistry
   d. Nomenclature
2. The heat change of a reaction with constant pressure:
   a. Enthalpy
   b. Calorie
   c. Joule
3. A solid that has a fixed structure
   a. Amorphous solid
   b. Glass
   c. Quartz
   d. Plastic
4. Holds more solute than can be dissolved under normal conditions.
   a. Unsaturated
   b. Oversaturated
   c. Supersaturated
   d. Saturated
5. Is defined as the number of moles of solute per liter of solution:
   a. Molality
   b. Molarity
   c. mole

Reminders:
- Final Study Prep
- Test Prep for Lecture Test 2 5-7 Thurs.
- Final Test Prep is Q+A.

Chapter 19 definitions:

1. Cell is the smallest structural unit of living organisms. What are the main components of the cell:
   a. Carbohydrates
   b. Lipids
   c. Proteins
   d. Nucleic Acids
2. What are monosaccharides?
   a. Carbs that cannot be broken down into simpler carbs.
3. What are disaccharides?
   a. Carbs made up of 2 Monosaccharides.
4. What are polysaccharides?
   a. Polymers made up of mono as repeating units.
5. Monosaccharides do not exist as a chain, instead they exist as a Cyclic. Structure.
6. How are disaccharides formed, What holds them together?
   a. Form when 2 mono react + eliminate water
   b. Bond - glycosidic linkage.
7. Lipids are Soluble in non-polar solvents, so they do not in water
8. What are lipids used for?
   a. long term energy Storage + insulation.
9. Lipids include:
   a. Fatty acids
   b. fats
   c. Oils
   d. Phospholipids

e. Steroids

10. A saturated fatty acid has Single bonds between Carbons.

11. A monounsaturated fatty acid has 1 double bond/ bonds between carbons.

12. Describe a polyunsaturated fatty acid

a. Have Multiple double bonds in the Carbon Chain.

13. Describe what phospholipids are.

a. Similar Structure to triglycerides, but 1 fatty acid group is replaced w/ a Phosphate group.

14. What are proteins?

a. Polymers of amino acids

15. How many amino acids are there?

a. 20 essential amino acids

16. Describe the four levels of protein structure:

a. Primary

b. Secondary

c. tertiary

d. Quarternary-

17. What is an enzyme?

a. Biological Catalysts that Speed up reactions by Providing an alt. reaction Pathway to lower act. energy.

18. What are the two theories of how enzymes work, describe them:

a. Lock + key - substrate fits into active site

b. Induced fit- enzyme molecule changes shape as substrate molecule gets closer.

19. What are the two types of nucleic acids:

a. DNA

b. RNA

20. What are the 5 bases that contain Nitrogen used in DNA and RNA

a. Adenine (A) Purines-A+G
b. Cytosine (C)
c. Guanine (G)
d. Thymine (T)
e. Uracil (U)

21. What is a codon:

a. A sequence of 3 nucleotides w/ their associated bases

22. Gene is a sequence of codons that codes for a single protein.

23. Describe the steps in protein synthesis:

a. gene unravels into 2 seperate strands.
b. gene acts as a template for synthesis of MRNA.
c. MRNA moves out of cell nucleus to ribosomome
d. Ribosome uses MRNA to construct a protein.

24. DNA transformed to mRNA is known as Transcription

25. mRNA transformed to a protein is known as Translation.