

Lecture 5,6- study questions

Macromolecules

1. Define organic compounds and macromolecules.
2. Name four major biological macromolecules?
3. How are macromolecules formed and how are they digested?
4. Carbon has _____ outer electrons so it can form _____ bonds by sharing these electrons.
5. Carbon & hydrogen make up compounds called _____.
6. Large organic molecules are called _____.
7. Polymers are built from smaller subunits called _____.
8. Monomers linked together are called _____.
9. The process of linking monomers together is called _____.
10. Dehydration synthesis links small molecules or monomers together by removing molecules of _____.
11. Name the process used to break down large polymers into smaller monomers.
12. Hydrolysis involves _____ a molecule of water in order to break bonds.

Carbohydrates

1. What are carbohydrates? What are the three classification of carbohydrates? Give examples of each class.
2. What are the energy storage molecules in plants and animals?
3. What is the monomer called that make up carbohydrates?
4. Function of carbohydrate
5. What is the difference between mono, di, and polysaccharides?
- 6, Glucose is a polysaccharide? T/F Sucrose is monosaccaharide? T/F

7. Sugar found in milk ----- made of glucose and -----
8. Sugar found in sugarcane or table sugar ----- made of glucose and --

9. Name some foods that contain lots of carbohydrates.
10. _____ are simple sugars.
11. Name 3 monosaccharides & give their chemical formula.
12. Monosaccharides are called hexose sugars because they contain 6
_____.
13. Name the simple sugars that make up each of these disaccharides:
 - a. Sucrose
 - b. Maltose
 - c. Lactose
14. Name 3 examples of polysaccharides
15. Plants store carbohydrate energy as _____.
- 16 Name some starchy foods.
17. Animals store their carbohydrate energy as _____.
18. Both starch & glycogen are made of monomers of _____ or glucose.
19. Cellulose makes up _____ in plants and serves as dietary _____ in
animals.
20. How are cows able to digest cellulose?

Lipids

1. What are lipids? Give examples.
2. Mention the functions of lipids.
3. What is the building block molecule that make up lipids?
4. What are fatty acids? What are the two kinds of fatty acids?
- 5, What is the difference between saturated and unsaturated acids (fats)? Which
one is
good and why?
6. Differences between fats and oils
7. A monounsaturated fat only has one double bond. T/F
8. Saturated fats are liquid at room temperature. T/F
9. What are essential fatty acids?
10. Lipids are hydrophobic. What does this mean?

11. If the bonds between carbons in a fatty acid are all single bonds, the fatty acid is _____.
12. If there is a double bond between carbons in a fatty acid, the fatty acid is _____.
13. _____ are the monomers that make up lipids or fats.
14. Saturated fatty acids are _____ at room temperature and include _____.
15. Unsaturated fats in plants exist as _____ or oils at room temperature and include _____.
16. What lipids are in cell membranes?

Proteins

1. Define protein. How protein can be obtained.
2. Discuss on protein function.
3. What are the monomers that make up proteins?
4. How many standard amino acids are there?
5. How amino acids are joined together in a protein molecule?
6. The bond that joins one amino acid to another is called -----
7. There are 20 different amino acids. T/F
8. What is polypeptide? Protein examples with more than one polypeptide
9. What are essential amino acids?

Nucleic acids

1. Define nucleic acids. Mention the types and parts of nucleic acids
2. What are the monomers that make up nucleic acids?
3. How do RNA and DNA differ?
4. Name three parts of nucleotide
5. Name nitrogenous bases found in DNA and RNA
6. Discuss on the structural model of DNA. Or
7. Discuss and show the arrangement of DNA.
8. Two strands of DNA are held by -----bonding between bases
9. There are ----- hydrogen bonds between adenine and thymine and ----- between cytosine and guanine.
10. The phosphate end of one strand opposes the hydroxyl end of the other and make a bond that make backbone strand of DNA. The bond is called -----
11. How DNA works?
12. Name the 2 types of nucleic acids.
13. What are the monomers for nucleic acids?
14. What 2 things make up the sides of DNA?
15. DNA is _____ stranded & coiled to make a shape called the double _____.
16. RNA has _____ sugar instead of DEOXYRIBOSE sugar on DNA
17. RNA is a _____ stranded molecule unlike double stranded DNA.
18. On RNA, the base _____ replaces thymine.