**PROTEIN PRACTICE QUIZ**

1. **Which of the following is the basic building block of a PROTEIN?**
2. **GLUCOSE**
3. **GLYCEROL**
4. **AMINO ACID**
5. **FATTY ACID**
6. **NUCLEIC ACID**
7. **Which formula below, would most likely be part of a PROTEIN?**
8. **C5H10O5**
9. **C3H7NO2**
10. **C17H34O2**
11. **HNO3**
12. **Which of the following molecules would be part of an ENZYME (all enzymes are proteins)?**
13. 
14. 
15. 
16. 
17. **The following polypeptide would have how many peptide bonds?**



1. **22 C) 0**
2. **24 D) 21**
3. **When a polypeptide starts to spiral forming an "Alpha Helix" due to weak H-Bonding down the chain, what level of structure has it reached?**
4. **Primary C) Tertiary**
5. **Secondary D) Quaternary**
6. **The arrow in the picture below is pointing to what part of an amino acid?**
7. **R-Group**
8. **Amino Group**
9. **Carboxylic Acid Group**
10. **Alpha Carbon**



1. **The picture below, shows ONE polypeptide at what level of structure?**



1. **Primary Structure**
2. **Secondary Structure**
3. **Tertiary Structure**
4. **Quaternary Structure**
5. **During the synthesis of the molecule (polypeptide) below, how many water molecules were produced?**



1. **13 C) 6**
2. **3 D) 4**
3. **When excess H+ ions, due to a low pH, start interacting with the bonds in a protein it starts to unfold and lose its shape. This is called?**
4. **Dehydration mutation**
5. **Polymerization**
6. **Hypertonicity**
7. **Denaturation**
8. **Helicalization**
9. **If an amino acid has an R-Group that is not polar or ionic, it will prefer to stay away from water. That R-group is then categorized as being….**
10. **Charged**
11. **Hydrophilic**
12. **Anti-hydraulic**
13. **Hydrophobic**
14. **How many polypeptides are found in this protein and what level of structure is this protein exhibiting?**



1. **Two polypeptides and Tertiary Structure
B) Four polypeptides and Quaternary Structure
C) Four polypeptides and Tertiary Structure
D) Two polypeptide and Quaternary Structure**

**ANSWER KEY**

1. **Which of the following is the basic building block of a PROTEIN?**
2. **GLUCOSE**
3. **GLYCEROL**
4. **AMINO ACID**
5. **FATTY ACID**
6. **NUCLEIC ACID**
7. **Which formula below, would most likely be part of a PROTEIN?**
8. **C5H10O5 (carbohydrate formula 1:2:1)**
9. **C3H7NO2 (Nitrogen is in amino acids)**
10. **C17H34O2 (no nitrogen, fatty acid)**
11. **HNO3 (Inorganic – no carbon – nitric acid)**
12. **Which of the following molecules would be part of an ENZYME?**

**Phospholipid = 2 Fatty Acids on a glycerol and one polar phosphate head**

1. 
2. 

**Honeycomb = Sterol Lipid**

1. 

**3 carbon back-bone = Glycerol**

1. 

**This has an Amino Group (NH2) and a Carboxylic Acid Group (COOH) = Amino Acid. All enzymes are proteins**

1. **The following polypeptide would have how many peptide bonds?**



1. **22 C) 0**

**This polypeptide has 22 amino acids in it. A peptide bond forms where one AA joins another. There are 21 bonds.**

1. **24 D) 21**
2. **When a polypeptide starts to spiral forming an "Alpha Helix" due to weak H-Bonding down the chain, what level of structure has it reached?**
3. **Primary C) Tertiary**
4. **Secondary D) Quaternary**
5. **The arrow in the picture below is pointing to what part of an amino acid?**
6. **R-Group**
7. **Amino Group**
8. **Carboxylic Acid Group**
9. **Alpha Carbon**



1. **The picture below, shows one polypeptide at what level of structure?**



1. **Primary Structure**
2. **Secondary Structure**
3. **Tertiary Structure**
4. **Quaternary Structure**
5. **During the synthesis of the molecule (polypeptide) below, how many water molecules were produced?**



1. **13 C) 6**
2. **3 D) 4**

**4 R-Groups indicates 4 AA's joined together = 3 peptide bonds formed = 3 waters synthesized.**

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