Bio 93 Midterm Review
When a bond is formed through the stripping of one atom or molecule's electrons by another, it is known as a:

A. Covalent Bond
B. Van Der Waal Interaction
C. Ionic Bond
D. Cohesion
You are making a solution in lab and need to pH it before use. When you dip the probe into the solution, the pH meter reads 4. What can you deduce from this information?

A. This solution has a high H⁺ concentration and is a base

B. This solution has a low H⁺ concentration and is an acid

C. This solution has a high H⁺ concentration and is an acid

D. This solution has a low H⁺ concentration and is a base
Write the compliment strand of DNA

AGTTTTCGAAAAATTCCC

TCAAAGGCTTTTTAAAGGG
Rapid Fire Round!

Answer the next questions as fast as you can
What is this?

Amino
What is this?

Phosphosphate
What is this?

Methyl
What is this?

Carboxyl
Which of the following is NOT a class of large biological molecules necessary for life?

A. Lipids
B. Carbon
C. Carbohydrates
D. Proteins
Increasing the number of carbon double bonds in an 18-carbon chain fatty acid will

A. Increase the melting point
B. Increase the molecular weight
C. Decrease flexibility
D. Decrease number of phosphate groups
When enzymes are heated to excess in a test tube, their activity usually decreases. In some cases, activity is restored when the temperature is returned to normal. In such a case, the heating processes causes

A. Covalent bonding
B. Hydrophobic interactions
C. Denaturation
D. Renaturation
The ____________ is the site of enzyme synthesis

A. Mitochondrion
B. Centriole
C. Lysosome
D. ribosome
Which are the following is an example of active transport

A. The sodium-potassium pump
B. Osmosis
C. Chemiosmosis
D. A calcium channel
The first reaction of the Krebs cycle is between

A. Coenzyme A and pyruvate
B. Acetyl-CoA and oxaloacetate
C. Citrate and isocitrate
D. Lactic acid and ethanol
Which of the following INCORRECTLY pairs a metabolic process with its site of occurrence

A. Glycolysis --- cytosol

B. Citric Acid Cycle --- mitochondrial membrane

C. Electron transport chain --- mitochondrial membrane

D. ATP phosphorylation --- mitochondria

E. Oxidative decarboxylation of pyruvate --- mitochondria
Which of the following compounds are both products of the light reaction in photosynthesis and reactants in the Calvin cycle?

A. Pyruvate and acetyl-CoA
B. NADPH and O₂
C. NADP⁺ and CO₂
D. NADP⁺, ATP and CO₂
E. NADPH and ATP
The primary function of fermentation is to

A. Generate ATP for the cell
B. Synthesize glucose
C. Regenerate NAD$^+$
D. Synthesize ethanol or lactic acid
E. Add to the total amount of ATP produced by cellular respiration
Glucose is a simple sugar with the formula $C_6H_{12}O_6$. If two glucose molecules are joined into a molecule of fructose, the disaccharide fructose is formed with the molecular formula

A. $C_6H_{12}O_6$
B. $C_{12}H_{24}O_{12}$
C. $C_{12}H_{23}O_{11}$
D. $C_{12}H_{22}O_{11}$
E. $C_{12}H_{23}O_{10}$
Which of the following might interfere most directly with the process of glycolysis

A. A compound that reacts with NADH and oxidizes it to NAD+
B. A substance that binds to oxygen and blocks it from acting as the terminal electron acceptor
C. A compound that inactivates pyruvate by binding to it
D. An agent that inhibits the formation of acetyl-CoA
E. A substance that closely mimics the structure of glucose but in nonmetabolic
Which of the following terms or phrases would not be associated directly with photosystem II in plants?

A. Photophosphorylation
B. The splitting of water
C. Harvesting light energy by chlorophyll
D. Oxygen released from water
E. Chlorophyll a
All amino acids have

A. An amino group and a carbonyl group
B. An amino group and a methyl group
C. An amino group and a phosphate group
D. And amino group and a carboxyl group
Peptide bonds are ___________ between amino acids

A. Covalent bonds
B. Hydrophylic interactions
C. Ionic bonds
D. Condensation reactions
Chaperonins assist in the establishment of the __________ level of organization in proteins

A. Primary
B. Secondary
C. Tertiary
D. Quaternary
Fructose is classified as a ketose because it has

A. A hydroxyl group on the number 2 carbon
B. A carbonyl group on the number 2 carbon
C. A hydroxyl group on the number 1 carbon
D. A carbonyl group on the number 1 carbon
A basic distinction between storage polysaccharides and structural polysaccharides is that the marcromolecules that function as energy reserves are made of ______ subunits and those involved in support are composed of ______ subunits

A. Beta glucose, alpha glucose
B. Alpha glucose, beta glucose
C. Alpha fructose, beta fructose
D. Beta fructose, alpha fructose
Integral proteins

A. Are usually fibrous proteins
B. Can be attached to the cytoskeleton
C. Are attached to the exterior of the cell
D. Always have quaternary structure
Phospholipids are one of the main components of the extracellular matrix.

A. Phospholipids
B. Collagen fibers
C. Cellulose fibers
D. Microtubules