Quiz: Lecture 3.5  
Principles of Electronic Nanobiosensors  
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Answer the five questions below by choosing the one, best answer.

1) Which is following statement is true
   
   a) Some of the Amino Acids do not carry any charge.  
   b) Charge of DNA is fixed, independent of pH.  
   c) The isoelectric point of all proteins is exactly the same.  
   d) A DNA nucleotide may have charge greater than 3, depending on the pH.

2) If pH changes from 7 to 6, the total charge of a DNA will
   
   a) Increase.  
   b) Decrease.  
   c) Stay about the same.  
   d) Could be positive or negative.

3) If pH changes from 7 to 6, the total charge of a protein will
   
   a) Increase.  
   b) Decrease.  
   c) Stay about the same.  
   d) Depends on the protein.

4) The screening length is defined for the self-consistent solution of
   
   a) The biomolecules only.  
   b) All the positive and negative ions in the solution.  
   c) Only by the protons.  
   d) Only by the salt ions.

5) Maximum potentiometric sensitivity occurs when the pH is set to
   
   a) Point of zero charge of the surface.  
   b) Point of zero charge of the molecule.  
   c) Point of zero charge of the reference electrode.  
   d) Exactly at 7.

End of quiz. This quiz contains 5 questions.