Lecture 4.1 Quiz
Principles of Electronic Nanobiosensors
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Answer the five questions below by choosing the one, best answer.

1) The term ‘False positive’ is used to discuss the selectivity of a biosensor. It means:
   a) Inability to find a disease when it is present.
   b) **Suggesting that a biomolecule is present, although it is not.**
   c) Confirming the presence of a biomolecule at very low concentration.
   d) All of the above.

2) Which of the following statement is correct regarding binding of a DNA?
   a) The binding strength of a DNA does not depend on the salt concentration.
   b) **A binding between DNA molecules are possible even if they are not perfectly complementary.**
   c) The binding strength of DNA does not depend on number of mismatches.
   d) A longer DNA has the same binding energy as a shorter DNA.

3) The melting temperature of a pair of DNA molecules depends on:
   a) The relative concentration of A, T, C, G molecules.
   b) The total number of A, T, C, G molecules.
   c) The number of mismatched pairs of nucleotides.
   d) **All of the above.**

4) PNA is a special type of DNA, because
   a) It does not carry any charge in its backbone.
   b) Can operate only at high salt concentration.
   c) Is found in natural organism.
   d) All of the above.

5) A number of strategies have been used to improve selective binding of DNA.
   a) New DNA design that changes the backbone of the DNA.
   b) New Nucleotide design that provides more symmetric binding of A-T and C-G pairs.
   c) Precise control of temperature of the substrate so that parasitic binding can be removed.
   d) **All of the above.**

**End of quiz. This quiz contains 5 questions.**