Lecture 4.3 Quiz
Principles of Electronic Nanobiosensors
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Answer the five questions below by choosing the one, best answer.

1) A centrifuge is used to differentiate biomolecules of different
   a) Masses.
   b) Charge states.
   c) Electron affinity.
   d) Geometrical shapes.

2) After 4 cycles of PCR, the original number of ss-DNA has been amplified by a factor of
   a) 2
   b) 4
   c) 8
   d) 16

3) In a small sample volume, the DNA amplification may cease completely because
   a) Insufficient time for annealing or denaturation.
   b) Finite amount of primers for copying DNA
   c) Insufficient temperature control.
   d) None of the above.

4) Tags are attached to biomolecules in order to:
   a) Make the biomolecules diffuse faster.
   b) Distinguish target biomolecules from parasitic ones.
   c) Make attachment to sensors easier.
   d) Improve the sensitivity of potentiometric sensors.

5) We have used two approaches to describe the selectivity problem – a matrix approach
   (matrix elements describing ‘false positive’ vs. ‘false negative’) vs. a communication
   channel approach. These approaches are:
   a) Essentially the same.
   b) Completely different – each sensor can only be described by one or the other.
   c) Similar, but with very important differences.
   d) One applies to tag-based approach, the other to ‘space/energy’ selectivity problems.

End of quiz. This quiz contains 5 questions.