

Lecture 3.7 Quiz  
Principles of Electronic Nanobiosensors  
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Answer the five questions below by choosing the one, best answer.

1) A Glucose monitor is a

- a) Amperometric sensor.
- b) Potentiometric sensor.
- c) Cantilever based sensor.
- d) Optical index based sensor.

2) An amperometric sensor has the following characteristics:

- a) It is free from screening limit.
- b) Is selective to the analyte of interest, compared to a potentiometric sensors.
- c) The electrodes are difficult to miniaturize to nanoscale.
- d) All of the above.

3) After being reduced, a molecule

- a) Gains one or more electrons.
- b) Loses one or more electrons.
- c) Gains one or more protons.
- d) Loses one more protons.

4) Reference electrodes are widely used for amperometric sensing. This is because

- a) It provides a reference current.
- b) It defines the potential reference for working and counter-electrodes.
- c) It holds the pH of the solution at a fixed value.
- d) It holds the salt concentration of the solution at a fixed value.

5) When a voltage is applied to an electrode, a redox reaction might be initiated. The Butler-voltage equation suggests that the dependence of the redox reaction on analyte density is

- a) Linear.
- b) Exponential.
- c) Logarithmic.
- d) None of the above.

End of quiz. This quiz contains 5 questions.