

# Fundamentals of Nanotransistors

## L1.4 Quiz

### ANSWERS

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#### Lecture 1.4: Transistors to Circuits

- 1) Which of the following is an advantage of a CMOS inverter?
  - a) Little or no dynamic power dissipation.
  - b) Little or no static power dissipation.**
  - c) A switching speed that is essentially independent of capacitance.
  - d) Noise margins that are independent of voltage gain.
  - e) Ability to operate without both N and P-channel MOSFETs.
  
- 2) Which of the following device metrics most strongly affects the speed of a CMOS circuit?
  - a) The off-current.
  - b) The on-current.**
  - c) The subthreshold swing.
  - d) The drain induced barrier lowering.
  - e) The output resistance.
  
- 3) What is the biggest benefit of low-voltage operation of a CMOS circuit?
  - a) It lowers the standby power.
  - b) It lowers the active power.**
  - c) It lowers the switching speed.
  - d) It improves the noise margins.
  - e) It increases the activity factor.