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Semiconductor Fundamentals & PN Junction Device Physics Quiz

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Semiconductor Fundamentals- Quiz ideas

1) What is the bandgap of single crystal Si at T=300K?
   A. 0.67eV
   B. 1.12eV
   C. 1.21eV
   D. 2.21eV

2) Temperature coefficient of resistance in a pure Si is
   A. Negative
   B. Zero
   C. Positive
   D. Positive and then Negative beyond crystallization temperature

3) How does Fermi level moves as acceptor doping increases?
   A. Remains the same, Fermi level does not get impacted by doping but Fermi potential does
   B. Moves down till intrinsic level and gets pinned at intrinsic level (does not move further)
   C. Moves down in the forbidden gap
   D. Moves up in the forbidden gap

4) The electron affinity of a semiconductor is the difference in energy between the vacuum level and E_i (intrinsic Fermi level) at the surface of the semiconductor
   A. True
   B. False

5) How does the bandgap change when we go down G14 (Group 14) of the periodic table?
   A. No consistent trend
   B. Constant
   C. Increases
   D. Decreases

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