QUIZ on Lecture P1_Wk5_L1

1. In VEDA, by selecting Echo of Input Parameters in the Results menu, you can

    a) estimate the length of time required to run the simulation
    b) obtain a printout of all values that VEDA used when performing the simulation
    c) learn the names of other users who ran a similar simulation
    d) view a summary of the prior simulations that you have performed

2. When performing a DMT simulation of the cantilever deflection as a function of z displacement, what parameter should you vary to simulate results expected for softer substrates?

    a) vary Young's modulus of the tip
    b) vary the cantilever spring constant
    c) vary Young's modulus of the substrate
    d) vary the z range over which the simulation is performed

3. When performing a simulation of the cantilever deflection as a function of z displacement, one sure sign that the substrate is very rigid is

    a) before jump to contact, the cantilever deflection is constant, independent of z displacement
    b) after jump to contact, the magnitude of the slope of the deflection vs. displacement simulation is less than 1
    c) after jump to contact, the magnitude of the slope of the deflection vs. displacement simulation is greater than 1
    d) after jump to contact, the magnitude of the slope of the deflection vs. displacement simulation is equal to 1

4. A simulation of VEDA of the cantilever deflection as a function of z displacement is performed for four different substrates with Young's modulus of 500 GPa, 100 GPa, 10 GPa, and 1 GPa. You would expect the substrate showing the smallest deformation will be

    a) the substrate with the 500 GPa modulus
    b) the substrate with the 100 GPa modulus
    c) the substrate with the 10 GPa modulus
    d) the substrate with the 1 GPa modulus