

QUIZ on Lecture P1_Wk2_L3

1. The surface energy of a solid should

- a) be independent of the Hamaker constant
- b) depend linearly on the Hamaker constant
- c) depend on the square of the Hamaker constant
- d) depend inversely on the Hamaker constant

2. The interaction energy between two flat planes separated by a distance d varies as

- a) d^{-4}
- b) d^{-3}
- c) d^{-2}
- d) d^{-1}

3. The Derjaguin approximation connects the force between a plane and a sphere to the interaction potential energy between two flat planes. This approximation may be of limited use because

- a) it requires a knowledge of the sphere radius
- b) it assumes an atomically flat plane
- c) it assumes an atomically smooth sphere
- d) the interaction between sphere and plane is limited to only van der Waals interactions
- e) all of the above