

## QUIZ on Lecture P1\_Wk2\_L1

1. The Hamaker constant essentially describes

- a) The characteristic length scale for the interaction between two objects
- b) The characteristic energy scale for the interaction between two objects
- c) The characteristic mass scale for the interaction between two objects
- d) The characteristic time scale for the interaction between two objects

2. A typical value for the Hamaker constant is

- a) 0.0001 eV
- b) 0.01 eV
- c) 1.0 eV
- d) 100 eV

3. If the surface – to – surface distance between a sphere and a flat plane is  $d$ , the interaction potential energy between these two objects varies as

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

4. The Lifshitz theory for the Hamaker constant

- a) requires a knowledge of electron affinities
- b) requires a knowledge of magnetic susceptibilities
- c) requires a knowledge of polarizabilities
- d) requires a knowledge of dielectric constants