DEPARTMENT OF CHEMICAL ENGINEERING

Major Examination. CHL 766. Interfacial Engineering

Max. Time: 2 hrs Max. Marks: 40

Q. 1. a. What are the different kinds of resistances encountered in evaporation of water from a surface covered with a monolayer? Indicate their typical magnitudes. Which compound is in serious contention for use in retarding evaporation losses from large bodies of water such as lakes? (5 marks)

b. How would you alter these resistances in a laboratory-scale system, if needed? (5 marks)

Q. 2. a. What are the advantages of carrying out reactions in monolayers as opposed to those in bulk phases? (5 marks)

b. Explain interfacial polymerization with an example of your choice. (5 marks)

Q. 3. a. Explain the role of steric factors in oxidation of a film of oleic acid by permanganate solution? (10 marks)

b. How are wave-damping at a clean interface and that by surface-active agents described quantitatively? (10 marks)
