Uva Wellassa University of Sri Lanka
Faculty of Science and Technology
Department of Science and Technology
300 level 1st Semester Examination – June/July 2017
SCT 348-1 Soft Materials and Their Applications

Uva Wellassa University

Instructions to candidates
Duration: 01 hour
Number of questions: 02
Answer all questions
Mark allocation: 40

1. a. Define **Soft Materials** using the characteristics of solids and liquids.

(04 marks)

b. Describe briefly why length, time, and energy scales are very important when determining the properties of soft materials.

(06 marks)

c. Draw typical effective viscosity-strain rate curves for newtonian, shear thining, and shear thickening fluids.

(06 marks)

d. What is the meaning of "Viscoelastic Response"?

(04 marks)

2. a. Describe briefly anionic, cationic, and nonionic surfactants using appropriate examples.

(09 marks)

b. Most of the soft materials can be found as gels.

(i) How do you determine the gelation point?

(02 marks)

(ii) What are the main differences between chemical and physical gels?

(04 marks)

(iii) What is the meaning of "Thermoreversible Gelation"?

(02 marks)

(iv) How do we make gelatine?

(03 marks)