

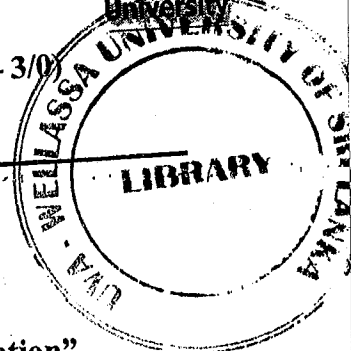
Uva Wellassa University
Bachelor of Animal Science
B.Sc. in Export Agriculture

End Semester Examination - September/October 2012
Year 1 Semester II

Fundamentals of Agricultural, Food & Biochemical Engineering (AAS 102 - 3/0)
Repeat



Uva Wellassa
University



PART III - Essay

Question 01

- I. "Today the drying of foods is still important as a method of preservation"
Comment on it. (10 marks)
- II. Briefly discuss two (02) important process-controlling factors that enter into the unit operation of drying. (10 marks)
- IV. Freeze drying often reserved for materials that are heat sensitive, such as proteins, enzymes, microorganisms and blood plasma. What are the advantages & disadvantages of above mentioned modern technology? (10 marks)

Question 02

- I. Write short notes on,
 - a) Specific Heat Capacity (06 marks)
 - b) Laminar flow & Turbulent flow (06 marks)
 - c) Critical Reynold's Number (06 marks)
- II. A dryer is used to dry 1000 kg of rubber having 26 °C from 55% moisture to 10% moisture. 550 kg of steam is used to increase the temperature of rubber to 64°C.

Specific heat capacity of water is $4.186 \text{ kJ kg}^{-1} \text{ } ^\circ\text{C}^{-1}$

Specific heat of rubber is $2.65 \text{ kJ kg}^{-1} \text{ } ^\circ\text{C}^{-1}$

Latent heat of steam is 2283 kJ kg^{-1}

Latent heat of vaporization is 2331 kJ kg^{-1}

- a) Estimate the heat requirement of the dryer. (06 marks)
- b) Calculate the efficiency of the dryer. (06 marks)

Question 03

I. Write short notes on,

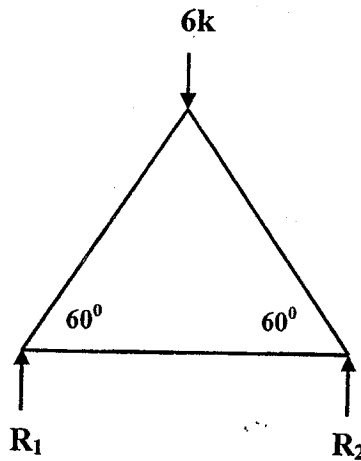
a) Equations of Motion

(06 marks)

b) Distance-Time Graphs for uniform & non-uniform motions.

(06 marks)

II. Given below is a simple truss which is in equilibrium.



Calculate,

a) The R_1 & R_2 reactions.

(06 marks)

b) The internal member forces.

(12 marks)