

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATION**

**RESIT /SPECIAL EXAMINATION**

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN  
FOOD SCIENCE AND TECHNOLOGY**

**FOST 335: UNIT OPERATIONS IN FOOD PROCESSING**

**STREAMS:**

**TIME: 2 HOURS**

**DAY/DATE: WEDNESDAY 03/11/2021**

**11.30 A.M – 1.30 P.M**

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**INSTRUCTIONS:**

**Answer all Questions in section A and any other two Questions in section B**

**SECTION A**

1. (a) Explain the basic factors that affect the rate of evaporation during food processing. (5 marks)
- (b) Use a diagram to illustrate a two effect evaporator. (6 marks)
2. Describe four factors which influence rates of throughput of sieves. (4 marks)
3. Give five examples of contact equilibrium separation processes. (5 marks)
4. Explain emulsification and the factors which control stability of an emulsion. (10 marks)

**SECTION B**

5. (a) Discuss four group types of mechanical separations. (8 marks)
- (b) Use a diagram to explain dough and paste mixers and the main driving principle. (12 marks)
6. (a) Describe three categories of drying processes. (6 marks)

(b) By using a well labeled diagram explain the operation of a hammer mill. (10 marks)

(c) Explain the importance of cleaning raw food materials as a food processing operation. (4 marks)

7. (a) Categorize and discuss raw food materials cleaning procedures. (12 marks)

(b) Describe the operation of the following drying equipments;

(i) Tray dryers, (4marks)

(iii) Spray dryers, (4marks)

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