

CHUKA



UNIVERSITY

SUPPLEMENTARY / SPECIAL EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE AWARD OF BACHELOR OF SCIENCE
IN FOOD SCIENCE & TECHNOLOGY**

FOST 233: FOOD PROCESSING INSTRUMENTATION

STREAMS: Y2S1

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 18/11/2020

2.30 P.M – 4.30 P.M.

INSTRUCTIONS:

- Answer all questions in section and any other Two in section B

DATE: NOVEMBER 2020

TIME: 2 HOURS

Instructions: Answer all questions in section and any other Two in section B

SECTION A (30MARKS)

Question One

- Briefly describe the role of a boiler and its mode of operation (4marks)
- Clearly differentiate between molecular and viscous flow in reference to vacuum creation (4marks)

Question Two

- With an illustration, describe the process of creating a vacuum in the freeze-dryer. (4marks)
- Programmed operation system is much preferred to manual system in equipment installation. Explain this statement (4marks)

Question Three

- Explain the relevance of flow meter and how it can facilitate accurate results during packaging of soda. (3marks)
- Briefly describe how temperatures are measured and how they can be maintained to ensure efficient production continuity. (4marks)

Question Four

- a) Outline various ways of developing pressure in food industries and suggest its possible applications. (4 marks)
- b) Water vapor can be used in creating a vacuum. Explain (3marks)

SECTION B (40MKS)

Question Five

- a) Discuss different methods of cooling and heating that are used in food industries (15marks)
- b) Explain the importance and applicability of the course to a food technologist (5marks)

Question Six

- a) Discuss various guidelines to be followed while selecting equipment to be installation in the food plant. (10mks)
- b) Explain various ways in which liquid level milk can be measured and controlled in a pasteurizer. (10marks)

Question Seven

- a) Describe major components of an automated system and theirs functions. (10marks)
- b) Explain different types of transducers, characteristics and their application in food industries. (10marks)

.....
..