

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

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

FOST 234: FOOD PLANT UTILITIES AND SERVICES

STREAMS: BSc, FOOD SCIENCE & TECH Y2S1

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 5/12/2018

2.30P.M - 4.30 A.M.

INSTRUCTIONS:

- Answer ALL Questions in Section A and any other TWO in Section B
- Do not write anything on the question paper

SECTION A

1. Describe the construction requirements for a food establishment structure with respect to:
 - (i) Building [2 Marks]
 - (ii) Floors [3 Marks]
 - (iii) Storage space [5 Marks]
2. Describe the principal plant utilities in a food plant. [4 Marks]
3. Explain the factors that affect the quality of Lentic water. [8 Marks]
4. Ultraviolet (UV) radiation has been used for years in many industries for inactivation or destruction of microorganisms for disinfection purpose. List;
 - (i) Two advantages. [2 Marks]
 - (ii) Five disadvantages associated with the method [5 Marks]

SECTION B

5. Discuss the following common water treatment techniques;
 - (i) Filtration and filtration hazards. [10 Marks]
 - (ii) Ion exchange processes and hygienic aspects of ion exchange processes. [10 Marks]
6. (a) Use a pressure-enthalpy (P/H) chart to describe the refrigeration cycle. [10 Marks]
(b) Use a well labeled diagram to describe the operation of a fire-tube boiler. [10 Marks]

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7. (a) Discuss the handling/treatment of waste from food processing plants. [12 Marks]
(b) Discuss the sources of these contaminants. [8 Marks]
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