

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

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

FOST 346: MEAT, POULTRY AND SEA FOODS TECHNOLOGY

STREAMS: BSc. FOST

TIME: 2 HOURS

DAY/DATE: MONDAY 14/04/2025

11.30 A.M. – 1.30 P.M.

INSTRUCTIONS:

- 1. The paper contains section A and B**
- 2. Answer all questions in section A and any two from section B**
- 3. Marks for each question are indicated in parenthesis ()**
- 4. Do not write anything on the question paper.**
- 5. Total marks = 70**

SECTION A: ANSWER ALL QUESTIONS (30 MARKS)

- (a) Explain the differences between cold smoking and hot smoking in meat processing (3 Marks)

(b) Explain the importance of water-holding capacity (WHC) in meat processing and its impact on product quality. (3 Marks)
- (a) Describe the process of fish fermentation and how it enhances meat preservation and flavour (4 Marks)

(b) Discuss the autolytic changes in meat during meat and meat products spoilage. (4 Marks)
- Describe the steps involved in the processing of cured meat sausages (6 Marks)
- Discuss factors affecting egg quality (6 Marks)
- Explain the sous-vide processing method and its advantages in food preservation. (4 Marks)

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

6. (a) Describe the conversion of muscle to meat and the biochemical changes that occur during this process (8 Marks)
- (b) Discuss the following meat processing techniques (12 Marks)
- i. Meat Smoking
 - ii. Meat Curing
 - iii. Deboning
7. (a) Discuss the pre-slaughter, slaughter, and post-slaughter operations involved in pig processing (12 Marks)
- (b) A meat processor notices excessive drip loss in stored meat. Based on your knowledge of meat composition, what could be causing this problem, and how can it be resolved? (8 Marks)
8. (a) Explain the process of rigor mortis in meat and discuss its effects on meat quality and how its effects can be reduced in meat and meat products (12 Marks)
- (b) Discuss the post-mortem changes in fish muscles that are related to lipid oxidation (8 Marks)
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