

CHUKA

UNIVERSITY



UNIVERSITY EXAMINATIONS

FOURTH YEAR EXAMINATION FOR THE AWARD OF CERTIFICATE IN ANIMAL PRODUCTS PROCESSING TECHNOLOGY

ANPT 465: WOOL SCIENCE AND TECHNOLOGY

STREAMS: BSc ANPT(Y4S2)

TIME: 2 HOURS

DAY/DATE: FRIDAY 12/4/2024

2.30P.M. – 4.30P.M.

INSTRUCTIONS:

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

SECTION A (30 MARKS)

Q1. Differentiate between the following terms as used in wool production, giving appropriate examples.

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|--------------------------------|-----------|
| (a) Scouring and carding | (2 marks) |
| (b) Fulling and Crabbing | (2 marks) |
| (c) Fine wool fibers and Kemps | (2 marks) |

Q2. Within the wool processing industry, describe five primary objectives pursued through the process of carding wool. (6 marks)

Q3. Briefly describe the microscopic structure of wool fibers as revealed through visual examination under a microscope. (6 marks)

Q4. Briefly discuss the technique of hormonal shearing in sheep and identify four benefits associated with this method. (6 marks)

Q5. List six defects that lead to the classification of wool as inferior during the skirting process. (6 marks)

SECTION B (40 MARKS)

- Q6.(a) Discuss wool production challenges in Kenya that results in production of low quality wool. (10 marks)
- (b) Discuss the characteristics that make wool to have a clothing comfort relative to other fibers. (10 marks)
- Q7.(a) Discuss how physiological and environmental factors in sheep affect the quality and quantity of wool produced. (12 marks)
- (b) Explore four physical properties inherent to wool fibers, and their significance in the manufacturing process. (8 marks)
- Q8.(a) Discuss factors that can increase the proportion of greased wool in sheep wool. (10 marks)
- (b) In the context of textile production, differentiate between woolen and worsted yarns. (10 marks)

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