



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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University Examinations 2024/2025

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY

AFT 3402: FOOD PACKAGING TECHNOLOGY

DATE: DECEMBER 2024

TIME: 2 HOURS

INSTRUCTIONS:

- Answer Question ONE and any other TWO questions

QUESTION ONE (30 MARKS)

- Define the following terms
 - Primary packaging (1 Mark)
 - Active packaging (1 Mark)
 - Aseptic packaging (1 Mark)
 - Edible package (1 Mark)
- List four functions of a food package. (4 Marks)
- List four advantages of glass packaging materials. (4 Marks)
- List three quality inspections carried out on paper packaging materials. (3 Marks)
- Differentiate between controlled atmosphere packaging and modified atmosphere packaging (2 Marks)
- Previously in dairy industry in Kenya, long life milk was aseptically packaged in laminated paperboard cartons. In the recent past, long-life milk is packaged in pouches which can achieve the same long shelf-life. Explain three reasons why this is possible. (3 Marks)
- Explain three methods to prevent sulphur staining in canned foods (6 Marks)

- h) In 2017 in Kenya there was change in legislation regarding packaging to ban plastics. However, there is wish to move away from paper based packaging. Discuss this statement in relation to the environment. (2 Marks)
- i) List the type of plastic used to package disposable water bottle and refillable water bottle. (2marks)

QUESTION TWO (20 MARKS)

- a) Explain five active packaging systems used in food products. (10 Marks)
- b) Explain five chemical food deteriorative reactions that occur in food outlining how a package can be used to control the reaction. (10 Marks)

QUESTION THREE (20 MARKS)

- a) Differentiate between active and passive method of creating modified atmosphere package and discuss four methods of creating modified atmosphere actively. (10 Marks)
- b) Discuss four benefits that can be derived from the use of edible packaging material. (8Marks)

QUESTION FOUR (20 MARKS)

- a) Describe blow and blow and press and blow methods of manufacturing glass packaging materials. (12 marks)
- b) Discuss four future packaging technologies. (8 Marks)