

2ND SEM. 2018/19

UNIVERSITY OF ESWATINI



FINAL EXAMINATION PAPER

PROGRAMME: BACHELOR OF SCIENCE IN FOOD SCIENCE, NUTRITION AND TECHNOLOGY

COURSE CODE: FSNT408/FNS408

TITLE OF PAPER: FOOD PACKAGING AND TRANSPORTATION

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER QUESTION ONE (1) AND ANY OTHER TWO (2) QUESTIONS.

DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN GRANTED BY THE CHIEF INVIGILATOR.

QUESTION 1 (COMPULSORY)

(a) Fill-in the correct word(s)/phrase(s). Write your answer on the answer sheet. DO NOT write the whole sentence/phrase. e.g. a) 1. Excess fat

1. _____ is effective for predicting microbial concentrations and other parameters of food quality during shipping and storage.
2. _____ in plastics packaging refers to the transfer of compounds from the plastic to the food product.
3. _____ relies on altering the composition of gases in contact with the food by replacing air with a single gas or a mixture of gases.
4. _____ involves bonding together 2 or more plastics or bonding plastic to another material such as paper or aluminum.
5. In _____, a tube of softened polymer is extruded between two halves of a mould.

(5x2=10 Marks)

(b) Discuss the **five (5)** main functions of food packaging.

(5x4=20 Marks)

(c) Discuss **five (5)** advantages and **five (5)** disadvantages of using paper/paperboard in food packaging.

(10x1=10 Marks)

[TOTAL MARKS=40]

QUESTION 2

(a) Discuss the **three (3)** packaging categories and give examples for each.

(3x2=6 Marks)

(b) Describe the main factors that cause deterioration of food during storage.

(4x1=4 Marks)

(c) Differentiate between laminated and co-extruded films in packaging.

(4x2=8 Marks)

(d) Six resins account for almost 97 percent of all plastic used in packaging. Discuss these resins and give examples of packaging materials that they are used for.

(6x2=12 Marks)

[TOTAL MARKS=30]

QUESTION 3

(a) Provide detailed information on the following types of packaging.

- i. Modified Atmosphere Packaging (MAP)
- ii. Controlled atmosphere packaging (CAP)
- iii. Active packaging (AP)
- iv. Vacuum packaging (VP)
- v. Modified humidity packaging (MHP)

(5x4=20 Marks)

(b) Discuss factors that influence the success of a package.

(5x2=10 Marks)

[TOTAL MARKS=30]

QUESTION 4

(a) Write short notes on the following practices:

- i. Handling stages
- ii. Storage of materials & ingredients
- iii. Transportation in plant

(3x4=12 Marks)

(b) In general, packaging materials may be grouped into main categories. List the **two (2)** main categories and give examples for each.

(2x1=2 Marks)

(c) Discuss the advantages and disadvantages of glass packaging material.

(8x2=16 Marks)

[TOTAL MARKS=30]
