



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

DIPLOMA IN ENVIRONMENTAL HEALTH
SUPPLEMENTARY EXAMINATION PAPER

TITLE OF PAPER : FOOD SAFETY & PRESERVATION

COURSE CODE : EHS 313

DURATION : 2 HOURS

MARKS : 100

INSTRUCTIONS :

- : READ THE QUESTIONS & INSTRUCTIONS CAREFULLY
- : ANSWER ALL FOUR (4) QUESTIONS
- : EACH QUESTION CARRIES 25 MARKS.
- : WRITE NEATLY & CLEARLY
- :
- : BEGIN EACH QUESTION ON A SEPARATE SHEET OF PAPER.

DO NOT OPEN THIS QUESTION PAPER UNTIL PERMISSION IS GRANTED BY THE INVIGILATOR.

Question 1

- a. Describe how prolonged storage, light and heat affect fruits and vegetables nutrients [5]
 - b. Discuss how does food preservation ensure food security? [10]
 - c. Salmonellosis is significantly associated with poultry meat and eggs. Why is this so? [10]
- [25 Marks]**

Question 2

- a) How do the following factors affect the quality of eggs?
 - i. Diet [5]
 - ii. Age [2]
 - iii. Environment [3]
 - iv. Infections [5]
 - b) Describe how is the egg white different from the yolk? [5]
 - c) Describe how does the pH in foods affect microorganisms? [5]
- [25 Marks]**

Question 3

- a). Labeling of all prepackaged foods to be offered to the consumer or catering purposes should conform to the Codex general standard for labeling of prepackaged foods.
Define the following terms (Date marking on prepackaged food)
 - i. "Sell by date" [2]
 - ii. "Best before date" [2]
 - iii. "Use by date" [2]
 - iv. Why are these dates marked on prepackaged foods? [2]
 - b). Write short notes on the starter cultures used in the manufacture of cheese or yogurt. [6]
 - c). What conditions are necessary for the Maillard reaction to occur and give an example of a food product where this spoilage commonly occurs? [4]
 - d) In which foods are these food additives added and why?
 - i) Butylated Hydroxyanisole[BHA] [2]
 - ii) Nitrate or nitrite [2]
 - iii) Monosodium glutamate[MSG] [2]
 - iv) Sodium diacetate [1]
- [25 Marks]**

Question 4

- a. Non-pathogenic microorganisms which are beneficial (normal flora) contribute positively in the production of milk products such as Emasi, cheese, yogurt but may also cause milk to be unmarketable.

List and explain the conditions which may warrant milk rejection as unfit for human consumption. [12]

- b. You bought a loaf of bread from the Spar supermarket and during slicing; you observe string-like structures. What is this condition and what causes it? [3]
- c. In soft drinks, sodium benzoate is the preservative of choice. Explain why? [4]
- d. What is the effect of adding sodium benzoate salt to a mixed population of microorganism? [6]

[25 Marks]