



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

DIPLOMA IN ENVIRONMENTAL HEALTH
SUPPLEMENTERY EXAMINATION PAPER 2012

- 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. How do prolonged storage, light and heat affect fruits and vegetables nutrients [5]
- b. 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) How is the egg white different from the yolk? [5]
- c) How does the pH in foods affects 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 in? [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) Explain the mechanism of preservation using sugar syrup and salt brine. [4]
- b) How do light, oxygen and long storage affect nutrients in foods? [9]
- c) You open a canned solid packed cured meat product and you find that the surface of the meat has yellow or brown discoloration. What would have caused that? [4]
- d) How does low temperature preserve foods? [8]

[25 Marks]