



**UNIVERSITY OF SWAZILAND**  
**Faculty of Health Sciences**

**DEGREE IN ENVIRONMENTAL HEALTH**  
**Re-SIT EXAMINATION PAPER 2020**

- TITLE OF PAPER** : FOOD PRESERVATION
- COURSE CODE** : EHS 447
- DURATION** : 2 HOURS
- MARKS** : 100
- INSTRUCTIONS** :
- : READ THE QUESTIONS & INSTRUCTIONS CAREFULLY
  - : ANSWER ALL FOUR (4) QUESTIONS
  - : EACH QUESTION CARRIES 25 MARKS.
  - : NO PAPER SHOULD BE BROUGHT INTO THE EXAMINATION ROOM.
  - : 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**

The use of high temperature in food preservation is to ensure the safety of the product. The method chosen has to destroy the most resistant pathogenic spores but retain most nutrients. Discuss the process of canning fruits, and show the risk of foodborne infection in each stage of the fruit canning.

[25 Marks]

**Question 2**

- a) Spices make food to be tasteful and they are a darling in most restaurants. Some spices on top of their flavoring properties, also kill gram negative bacteria. Name five of such spices. [5]
- b) Give five reasons for using chemical preservatives in food. [5]
- c) In which foods are these food additives added and why?
  - i) Butylated Hydroxyanisole[BHA] [3]
  - ii) Nitrate or nitrite [5]
  - iii) Monosodium glutamate[MSG] [3]
  - iv) Sodium diacetate [2]
  - v) Sodium benzoate. [2]

[25 Marks]

**Question 3**

- a). What good use does ultraviolet (UV) irradiation have in the food establishment and what problems could emanate from the use of this method? [8]
- b). How does (UV) irradiation affect microorganisms in food? [6]
- c). You read a label in a supermarket with the name pasteurized milk. What does that mean? [6]
- d) Why is nitrate added in processed food? [5]

[25 Marks]

**Question 4**

- a). Why is it important to blanch vegetables or fruits before canning? [4]
- b) How do the following conditions affects the canning process?
  - i) Low water activity [3]
  - ii) Foods high in fats [3]
- c) How is freeze dried foods better than dried foods in relation to quality? [5]
- d) Discuss food spoilage in relation to enzymes. [5]
- e) Give at least three spices that have antifungal properties. [3]
- f) Which two types of microbes can be inhibited by propionic acid in food? [2]

[25 Marks]