



UNIVERSITY OF ESWATINI
Faculty of Health Sciences
Department of Environmental Health Science

BSc IN ENVIRONMENTAL HEALTH AND FOOD SCIENCE
FINAL EXAMINATION PAPER 2018

TITLE OF PAPER: **FOOD INGREDIENTS**
COURSE CODE: EHS 433
DURATION: 2 HOURS
MARKS: 100
INSTRUCTIONS: READ THE QUESTIONS AND INSTRUCTIONS
CAREFULLY

ANSWER QUESTION ONE AND ANY OTHER THREE
QUESTIONS

EACH QUESTION CARRIES 25 MARKS

BEGIN EACH QUESTION ON A SEPARATE SHEET OF
PAPER

WRITE NEATLY AND CLEARLY

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

QUESTION ONE

a) Define the following terms/acronyms.

(15Marks)

- i. Direct food additives
- ii. Indirect food additives
- iii. Functional Foods
- iv. LOEL
- v. NOAEL

b) Discuss the indirect and direct effects of food additives.

(10 Marks)

(25 Total Marks)

QUESTION TWO

a) Briefly discuss **three (3)** of the categories of food additives listed below taking into account the different types of additives under each category, their functions and examples of foods in which they are used:

(15 Marks)

- i. Preservatives,
- ii. Nutritional additives
- iii. Flavouring agents,
- iv. Colouring agents
- v. Texturizing agents
- vi. Miscellaneous additives.

b) The responsibility to develop safe foods has been given to the food processing industry. Describe the steps taken by some countries to approve a new food additive.

(10 Marks)

(25 Total Marks)

QUESTION THREE

a) What is the main purpose of food additives local assessments?

(3 Marks)

b) The major aim of food intake assessments is to protect consumer health and to assist in developing food additive regulations. What are the three major goals of Food additive intake assessments?

(6 Marks)

c) What does the acronym ADI stand for?

(1 Mark)

d) Define the ADI value and provide its measuring unit?

(5 Marks)

e) How is the ADI value calculated when the NOAEL is derived from animal studies and when it is derived from human data?

(5 Marks)

f) Explain the following methods of estimating dietary food additive intake:

(5 Marks)

i) One-phase Method

ii) Two-phase Method

(25 Total Marks)

QUESTION FOUR

1. What are the basic components of a risk assessment?
(5 Marks)
2. Discuss two of the basic components of a risk assessment in relation to food additives.
(20 Marks)
(25 Total Marks)

QUESTION FIVE

- a) Below are the two types of the Two-phase method of estimating dietary intakes of food additives. Select one of them and discuss your understanding of the method you selected.
(15 Marks)
 - i) Assumption of Maximum Permitted Levels
 - ii) Market Basket Method
- b) It is not easy to draw up guidelines for the actions government agencies should undertake to form the basis of reassuring information about the safety of food additives. It is equally difficult to decide what information should be made available to consumers. What steps should government agencies take to reassure consumers on the safety of food additives?
(10 Marks)
(25 Total Marks)