1ST SEM. 2018/19

UNIVERSITY OF ESWATINI

FINAL EXAMINATION PAPER

PROGRAMME	:	FOOD SCIENCE, NUTRITION AND TECHNOLOGY YEAR III
COURSE CODE	:	FNS305
TITLE OF PAPER	:	PRODUCT DEVELOPMENT AND FORTIFICATION
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) Explain the functions and deficiency diseases associated with the following nutrients:

i. Iron
ii. Folic acid
iii. Riboflavin
iv. Vitamin B12
v. Vitamin D
vi. Zinc
vii. Vitamin A

(28 Marks)

b) Differentiate between enrichment and restoration.

(6 Marks)

c) Discuss the three reasons for developing a new product.

(6 Marks)

[TOTAL MARKS = 40]

QUESTION 2

a) Explain the difference between product-oriented food product development and market-oriented food product development.

(20 Marks)

a) Using **five (5)** points, describe the criteria when selecting a vehicle for food fortification.

(10 Marks)

[TOTAL MARKS = 30]

QUESTION 3

a) Define new product development

(3 Marks)

b) Discuss **two (2)** limitations of fortification.

(5 Marks)

c) Describe the **three (3)** essentials of new product development.

(6 Marks)

d) Describe **three (3)** categories of a new product.

(6 Marks)

e) Discuss the following in fortification technology:

i. Dry mixing
ii. Spraying
iii. Addition
iv. Coating

(10 Marks)

[TOTAL MARKS = 30]

QUESTION 4

a) It is possible that the development of your new products does not succeed, discuss **five (5)** reasons why your new product might fail.

(15 Marks)

b) Using **five (5)** points, justify the importance of performing market research in new product development.

(15 Marks)

[TOTAL MARKS = 30]