

2ND SEM. 2007/2008



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UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

**PROGRAMME : BACHELOR OF SCIENCE IN FOOD
SCIENCE, NUTRITION AND
TECHNOLOGY YEAR III**

COURSE CODE : FSNT 305

**TITLE OF PAPER : FUNCTIONAL FOOD AND DIET
SUPPLIMENT**

TIME ALLOWED : TWO (2) HOURS

**INSTRUCTIONS : ANSWER QUESTION ONE (1)
AND ANY OTHER (2) QUESTIONS**

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GRANTED BY THE CHIEF INVIGILATOR**

QUESTION 1 [COMPULSORY]

- a) Define the following terms and give an example of a food product which each term applies:-

- i. Functional food
- ii. Vitafoods
- iii. Standardization
- iv. Substitution

[8 marks]

- b) Discuss **four** categories of food stuffs that are suitable for nutrient addition.

[12 marks]

- c) Discuss nutrient supplementation under the following situations

- i. Life cycle needs
- ii. Life style
- iii. Disease.

[9 marks]

[9 marks]

[2 marks]

[Total = 40 marks]

QUESTION 2

- a) Discuss the risk associated with megadosages of the following mineral and vitamins

- i. Vitamin C
- ii. Pyridoxine
- iii. Calcium.

[6 marks]

- b) Discuss the following mechanisms in the development of low calorie foods

- i. Calorie dilution
- ii. Ingredient substitution
- iii. Calorie extraction

[9 marks]

- c) Explain why mineral supplementation may be necessary in the following cases

- i. Calcium, Phosphorus and Iron supplements during pregnancy and lactation
- ii. Iron and Calcium supplements in adolescence and elderly persons
- iii. Zinc in vegetarians
- iv. Potassium in people with hypertension using diuretic drugs
- v. Iodine in certain populations

[15 marks]

[Total = 30 marks]

QUESTION 3

- a) Explain why breakfast cereals are an ideal vehicle for vitamin and mineral fortification
[10 marks]
- b) Discuss **two** components in functional foods that are responsible for the prevention of each of the following diseases:-
- i. Cardiovascular diseases
 - ii. Cancer
 - iii. Neural tube defects
- [12 marks]
- c) Discuss how functional foods maintain a healthy gut flora
[8 marks]
- [Total = 30 marks]

QUESTION 4

- a) Explain the usage of the following terms in nutritional labeling:-
- i. Nutrient declaration
 - ii. Nutrient claim
 - iii. Health claim
 - iv. Medical claim
- [12 marks]
- b) Explain which food components are said to be capable of improving:-
- i. Immune system
 - ii. Mood behaviour
 - iii. Intellectual performance
- [9 marks]
- c) Discuss **three** approaches that are used by food manufactures to control obesity
[9 marks]
- [Total = 30 marks]