

**2<sup>nd</sup> SEM. 2006/2007**



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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**

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN  
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. Restoration
  - ii. Fortification
  - iii. Standardization
  - iv. Substitution
- [8 marks]**
- b) Discuss **four** categories of food stuffs that are suitable for nutrient addition.
- [12 marks]**
- c) Discuss the **TEN** general principles for the addition of nutrients to foods.
- [20 marks]**
- [Total = 40 marks]**

**QUESTION 2**

- a) Discuss the importance of folic acid in the prevention of neural tube defects.
- [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 the development of low calorie foods in the following food categories
- i. Jams
  - ii. Soft drinks
  - iii. Sugar confectionery
  - iv. Dairy products
  - v. Meat products
- [15 marks]**
- [Total = 30 marks]**

**QUESTION 3**

- a) Discuss the necessity of amino acid and mineral fortification of breakfast cereals
- [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. Osteoporosis

**[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

**[8 marks]**

b) Discuss the FDA (USA) requirements for nutrient declaration on the nutrition panel box.

**[22 marks]**

**[Total = 30 marks]**