1ST SEMESTER 2005/2006

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

PROGRAMME:	**B. Sc. HOME ECONOMICS V AND B.Sc. HOME ECONOMICS EDUCATION V**
COURSE CODE:	**FN 502**
TITLE OF PAPER:	**FOOD NUTRIENT ANALYSIS**
TIME ALLOWED:	**TWO (2) HOURS**
INSTRUCTIONS:	**ANSWER ANY 4 QUESTIONS.**

THIS PAPER MAY NOT BE OPENED UNTIL THE CHIEF INVIGILATOR HAS GRANTED PERMISSION.

QUESTION 1

Discuss the divisions of qualitative analysis applicable to food nutrient analysis (25 Marks)

QUESTION 2

a) Explain the differences between adsorbed water and absorbed water in foods (5 Marks)

b) Briefly discuss vacuum oven and the distillation methods for moisture determination in foods (20 Marks)

QUESTION 3

Qualitative tests were done on five food samples, and the results are shown in table 1

Table 1: Results of qualitative chemical analysis of different food samples

Sample No.	Molisch Test	Barfoid test	Biuret test	Benedict test	Iodine test	Seliwanoff test
A	+	-	-	-	+	-
B	+	-	-	-	-	+
C	-	-	+	-	-	-
D	+	+	-	+	-	-
E	+	+	-	+	-	+

Identify the specific nutrients in these food samples and justify your answer. (25 Marks)

QUESTION 4

a.) Briefly describe a colorimetric method for determining glucose in food samples (15 Marks)

b) Briefly discuss the importance of food analysis in food processing (10 Marks)

QUESTION 5

A child suffering from malnutrition is taken to a doctor and the doctor recommends that a protein rich diet should be prepared for the child everyday. Given that the available food at home is rice and fish.

a) Calculate the Crude Protein contents of the foods using the figures in the table below. **(15 marks)**

b) Explain the reasons for the differences in protein contents of the two foods and the importance of having both foods in the diet **(5 marks)**

c) Explain the two assumptions made when calculation the Crude Protein content of food? **(5 marks)**

Food	**Weight of sample (g)**	**Volume of titre 0.1N H_2SO_4 - Food (ml)**	**Volume of 0.1N H_2SO_4 - Blank (ml)**	**Protein factor**
Rice	1.0	98.0	1.0	5.95
Fish	1.0	50.0	1.0	6.25