UNIVERSITY OF SWAZILAND
Faculty of Health Sciences
DEGREE IN ENVIRONMENTAL HEALTH
FINAL EXAMINATION PAPER 2009

TITLE OF PAPER   : FOOD ANALYSIS

COURSE CODE   :   EHS 502

DURATION   :   2 HOURS

MARKS   :   100

INSTRUCTIONS   :   READ THE QUESTIONS & INSTRUCTIONS
                                    CAREFULLY

                           :   ANSWER ANY FIVE QUESTIONS

                           :   EACH QUESTION CARRIES 20 MARKS.

                           :   WRITE NEATLY & CLEARLY

                           :   NO PAPER SHOULD BE BROUGHT INTO NOR OUT
                                      OF THE EXAMINATION ROOM.

                           :   BEGIN EACH QUESTION ON A SEPARATE SHEET
                                      OF PAPER.

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

EHS 502 EXAMINATION

Instructions: Answer any four questions

QUESTION ONE

a. Discuss the importance of proper sampling techniques in food analysis (8)

b. What are the principles of crude fiber analysis (7)

c. Give the main steps in the quantitative determination of vitamin C in fruit juice. (10)

TOTAL 25 Marks

QUESTION TWO

a. Errors are difficult to eliminate during food analysis. Discuss the major causes of errors and how they can be minimized during food analysis citing appropriate examples.(15)

b. What is the difference between precision and accuracy in data analysis? (10)

(25 Marks)

QUESTION THREE

a. What are the limitations in the use of standard curves in quantitative determinations? (10)

b. Differentiate between iodine value and saponification value in fat characterization. What is the significance of each value(15)

TOTAL 25 Marks

QUESTION FOUR

a. Discuss the limitations of protein determination using the Kjeldahl method. (15)

b. Describe one other method that is available for determining protein content of foods. (10)

(TOTAL 25 Marks)

QUESTION FIVE

a. Discuss the application of Beer's law in quantitative spectrophotometric determination of food constituents. Give examples as necessary (15)

b. Explain two principles of separation in column chromatography. (10)

(TOTAL 25 Marks)