UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF DIETETICS AND HUMAN NUTRITION
EXAMINATION: MAY 2012
SUBJECT, COURSE & CODE: NUTR 114 – INTRODUCTORY NUTRITION &
COMMUNITY RESOURCES

DURATION: 3 HOURS   **TOTAL MARKS: 150**

External Examiner: Mrs S Kassier
Internal Examiner: Dr K Pillay

This exam paper consists of two sections: Section A (3 pages and 100 marks) and Section B (11 pages and 50 marks). Please check that you have **all** the pages and please answer **both** sections.
Section A must be answered in the exam answer booklet.
Section B consists of multiple choice questions, calculations and short questions and must be answered on the paper provided.
PLEASE WRITE LEGIBLY AND ANSWER ALL QUESTIONS IN INK.
ANSWERS WRITTEN IN PENCIL WILL NOT BE MARKED.

SECTION A _____ **_____100 MARKS**

Please answer **all** of the questions below.

QUESTION ONE

"The Recommended Dietary Allowances (RDA) were first published in 1943 and have now been replaced by the Dietary Reference Intakes (DRIs)".

1.1   Explain why the DRIs have replaced the original RDAs.   **[5]**

1.2   Explain what the DRIs are and give a detailed explanation of each of the nutrient based reference values that make up the DRIs.   **[15]**

                                                                TOTAL MARKS = 20

UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF DIETETICS AND HUMAN NUTRITION
EXAMINATION: MAY 2012
SUBJECT, COURSE & CODE: NUTR 114 – INTRODUCTORY NUTRITION &
COMMUNITY RESOURCES

QUESTION TWO

2.1   You have been asked to give advice to a group of students on how to buy protein-rich foods with a limited budget. What would you advise the students? **[8]**

2.2   Keeping cold food cold is a key factor in prevention of food-borne illness.
        Explain how this can be achieved.   **[5]**

2.3   Explain the South African Food Labelling Laws with regards to the list of ingredients and pictorial representations.   **[7]**

                                                        TOTAL MARKS = 20

QUESTION THREE

3.1   Explain how factors related to the characteristics of the household can contribute to household food insecurity.   **[15]**

3.2   List the five (5) target groups of the South African Integrated Nutrition Programme (INP).   **[5 X 1 = 5]**

                                                        TOTAL MARKS = 20

QUESTION FOUR

4.1   Discuss the limitations of using the Food Composition Tables. **[12]**

4.2   Discuss the characteristics of successful dietary guidelines. **[6]**

4.3   List the correct South African Food Based Dietary Guideline for sugar.   **[2]**

                                                        TOTAL MARKS = 20

UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF DIETETICS AND HUMAN NUTRITION
EXAMINATION: MAY 2012
SUBJECT, COURSE & CODE: NUTR 114 – INTRODUCTORY NUTRITION &
COMMUNITY RESOURCES

QUESTION FIVE

5.1   Explain how the type of work a person does influences their eating behaviour.   **[20]**

TOTAL MARKS = 20

END OF SECTION A

UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF DIETETICS AND HUMAN NUTRITION
EXAMINATION: MAY 2012
SUBJECT, COURSE & CODE: NUTR 114 – INTRODUCTORY NUTRITION &
COMMUNITY RESOURCES

NOTE: THIS PAPER CONSISTS OF ELEVEN (11) PAGES. PLEASE SEE THAT YOU HAVE THEM ALL.

STUDENT NUMBER: _____

SECTION B: MULTIPLE CHOICE, CALCULATIONS AND SHORT QUESTIONS

50 MARKS

QUESTION ONE   **[1 X 20 = 20 MARKS]**

MULTIPLE CHOICE QUESTIONS
Please indicate your answer by clearly placing a circle around the letter that corresponds to your answer.
NEGATIVE MARKING APPLIES
1 mark for each correct answer
Minus ½ mark for each incorrect answer
0 marks for no answer

INTRODUCTION TO NUTRITION AND OVERVIEW OF NUTRIENTS (1X4)

1.   In which year was vitamin B discovered?

        A.   1913
        B.   1915
        C.   1927
        D.   1920

2.   "Osteoporosis is more common in women than men". Which determinant of health does this represent?

        A.   Lifestyle
        B.   Environment
        C.   Health beliefs
        D.   Biology

UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF DIETETICS AND HUMAN NUTRITION
EXAMINATION: MAY 2012
SUBJECT, COURSE & CODE: NUTR 114 – INTRODUCTORY NUTRITION &
COMMUNITY RESOURCES

3.   Which of the following is not a psychosocial factor that determines health?

      A.   Socioeconomic status
      B.   Personality
      C.   Diet
      D.   Occupation

4.   Which of the following statements on micronutrients is false?

      A.   Only vitamins are lost during food processing, storage and cooking
      B.   Vitamins and minerals are required in small amounts of either milligrams or micrograms
      C.   Minerals act as structural components and regulators of body processes
      D.   Magnesium is a major mineral as it is required in amounts of less than 100 mg/day

PROCURING AND USING FOOD (1 X 4)

5.   Which statement about food purchasing is false?

      A.   Processing increases the cost of a food
      B.   A speciality store usually charges higher prices than a supermarket
      C.   80% of domestic purchases occur on a Thursday, Friday and Saturday
      D.   Home brands are always cheaper

6.   After cooking food should be held above ___ degrees Celsius?

      A.   60
      B.   50
      C.   40
      D.   30

**UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF DIETETICS AND HUMAN NUTRITION
EXAMINATION: MAY 2012
SUBJECT, COURSE & CODE: NUTR 114 – INTRODUCTORY NUTRITION &
COMMUNITY RESOURCES**

---

7.   Bovine Spongiform Encephalopathy (BSE) is caused by a __?

      A.   Virus
      B.   Bacteria
      C.   Prion
      D.   Fungus

8.   Which of the following statements would not be prohibited on a food label?

      A.   "Serving suggestion"
      B.   "Recommended by Doctors"
      C.   "Health giving properties"
      D.   "Helps to lose weight"

PUBLIC HEALTH NUTRITION (1 X 4)

9.   Since 1994 South Africa has achieved numerous milestones in the area of health and nutrition.

Which of the following is not one of these milestones?

      A.   Mandatory iodisation of all table salt
      B.   Vitamin A supplementation
      C.   Standardisation of the Road to Health Chart
      D.   Development of food-based dietary guidelines for South Africans 7 years and younger

UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF DIETETICS AND HUMAN NUTRITION
EXAMINATION: MAY 2012
SUBJECT, COURSE & CODE: NUTR 114 – INTRODUCTORY NUTRITION &
COMMUNITY RESOURCES

10.   According to the National Food Consumption Survey (NFCS) of 2005, ___ women had a poor iron status.

        A.   1 in 5
        B.   1 in 4
        C.   1 in 3
        D.   1 in 2

11.   Which statement on malnutrition is false?

        A.   Malnutrition affects nearly 30% of the world's population
        B.   Malnutrition can result in decreased physical activity and reduced productivity
        C.   Malnutrition reversibly affects the lives of individuals and families
        D.   Malnutrition also leads to loss of human potential and great economic losses

12.   Which of the following statements on the new Road to Health Charts is false?

        A.   There are separate charts for boys and girls
        B.   The weight for age chart shows weight on the horizontal axis
        C.   The National Centre for Health Statistics (NCHS) growth standards have been replaced with the World Health Organization (WHO) growth standards
        D.   The weight for age chart is used routinely while the length for age chart is used periodically

UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF DIETETICS AND HUMAN NUTRITION
EXAMINATION: MAY 2012
SUBJECT, COURSE & CODE: NUTR 114 – INTRODUCTORY NUTRITION &
COMMUNITY RESOURCES

PLANNING A HEALTHY DIET (1 X 4)

13.   Which of the following is not designed to be used by consumers or the general public?

        A.   Food Composition Tables and Food Quantities Manuals
        B.   The Food Guide Pyramid
        C.   Mixed Meal Guide
        D.   Food Groups

14.   In the MyPyramid nutrition education tool, the colours of the pyramid illustrate:

        A.   Activity
        B.   Personalisation
        C.   Proportionality
        D.   Variety

15.   What is the WHO/FAO recommendation for physical activity?

        A.   One hour per day of light intensity on most days of the week
        B.   One hour per day of moderate intensity on most days of the week
        C.   One hour per week of moderate intensity on most weeks
        D.   One hour per week of light intensity on most weeks

16.   Which of the following would be a good example of a meal that encompasses the 5 food groups?

        A.   Milk; Chicken; Carrots; Bread; Margarine
        B.   Yoghurt; Rice; Margarine; Apple; Butter
        C.   Butternut; Pasta; Cooking oil; Orange; Rice
        D.   Dried beans; Banana; Samp; Pear; Carrots

UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF DIETETICS AND HUMAN NUTRITION
EXAMINATION: MAY 2012
SUBJECT, COURSE & CODE: NUTR 114 – INTRODUCTORY NUTRITION &
COMMUNITY RESOURCES

FACTORS INFLUENCING EATING BEHAVIOUR (1 X 4)

17. In which form of Christianity is a lacto-ovo vegetarian diet recommended?

A. Roman Catholics
B. Mormons (Latter Day Saints)
C. Seventh Day Adventists
D. Eastern Orthodox Christians

18. According to Judaism which of the following are regarded as being unclean?

A. Goat
B. Shellfish
C. Sheep
D. Cow

19. Which of the following is considered taboo by Orthodox Hindus?

A. Vegetarian meals
B. Fruit
C. Rice
D. Beef and pork

20. Beliefs regarding food is a _____ factor influencing eating behaviour.

A. Cultural
B. Demographic
C. Psychological
D. Social

END OF QUESTION ONE: MULTIPLE CHOICE QUESTIONS

UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF DIETETICS AND HUMAN NUTRITION
EXAMINATION: MAY 2012
SUBJECT, COURSE & CODE: NUTR 114 – INTRODUCTORY NUTRITION &
COMMUNITY RESOURCES

_____

QUESTION TWO   **CALCULATIONS**   **10 MARKS**

2.1   A 23 year old male consumes the following food items for lunch:

         220 g Beef Lasagne
         150 g Raw Apple with Skin
         250 ml Orange Juice

         Nutrient analysis of his lunch reveals the following results:
         Carbohydrate = 80 g
         Protein = 19 g
         Fat = 21 g

2.1.1   How many kilocalories did he consume from his meal?   **[4]**

2.1.2   Which nutrient contributed the least to total energy? Justify your answer with
        calculations. **[4]**

UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF DIETETICS AND HUMAN NUTRITION
EXAMINATION: MAY 2012
SUBJECT, COURSE & CODE: NUTR 114 – INTRODUCTORY NUTRITION &
COMMUNITY RESOURCES

_____

2.2   A 250 ml chocolate milkshake contains the following macronutrients, given as a
        percentage contribution to total energy:

        Energy = 1340 kJ
        Carbohydrate = 38 %
        Fat = 41%
        Protein = 21%

        Calculate the grams of fat and protein found in the milkshake.   **[2]**

END OF QUESTION TWO: CALCULATIONS

UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF DIETETICS AND HUMAN NUTRITION
EXAMINATION: MAY 2012
SUBJECT, COURSE & CODE: NUTR 114 – INTRODUCTORY NUTRITION &
COMMUNITY RESOURCES

_____

QUESTION THREE

SHORT QUESTIONS   **20 MARKS**

3.1   List the steps (in the correct sequence) that must be followed with the scientific method
       of carrying out nutrition experiments. **[½ X 5 = 2½]**

....

....

....

....

3.2   List four (4) sources of *Clostridium Perfringens* bacteria. **[½ X 4 = 2]**

....

....

....

....

3.3   According to the South African food labelling regulations what information must appear
       on a box of infant cereal designed to be used as a weaning food in infants 6 months of
       age?   **[6 X ½ = 3]**

....

....

....

....

UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF DIETETICS AND HUMAN NUTRITION
EXAMINATION: MAY 2012
SUBJECT, COURSE & CODE: NUTR 114 – INTRODUCTORY NUTRITION &
COMMUNITY RESOURCES

3.4   Explain the difference between infection and intoxication. **[2]**

....

....

....

....

3.5   List three (3) short term strategies to combat malnutrition. **[½ X 3 = 1½]**

....

....

....

3.6   Explain what is meant by "household food security"   **[2]**

....

....

....

....

3.7   List the six (6) basic diet planning principles.   **[½ X 6 = 3]**

....

....

....

....

UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF DIETETICS AND HUMAN NUTRITION
EXAMINATION: MAY 2012
SUBJECT, COURSE & CODE: NUTR 114 – INTRODUCTORY NUTRITION &
COMMUNITY RESOURCES

3.8   Give the South African Prudent Dietary Guideline for protein and cholesterol. **[2]**

....

....

....

3.9   List four (4) demographic factors that influence eating behaviour.   **[½ X 4 = 2]**

....

....

....

....

END OF QUESTION THREE: SHORT QUESTIONS