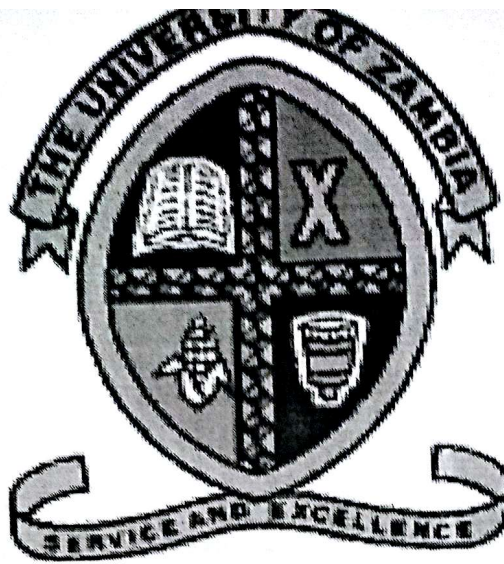


25/15



25/15

THE UNIVERSITY OF ZAMBIA
SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF ENVIRONMENTAL HEALTH

TEST 1: EHS 2610: Food CHEMISTRY AND NUTRITION

SECTION A: ANSWER ALL (MCQ)

Circle the right answer

Sect A 12/15

1; This food group is our body's best source of energy?

- A. Meat Group
- B. fats, oils and sweets
- ☒ C. breads and cereals
- D. milk and cheese



2. Which of these is NOT considered a nutrient?

- A. vitamins
- ☒ B. minerals
- C. fiber
- D. fats



3. Which of these is required on the food label?

- A. total carbohydrate

- B. sugars
- C. iron
- ☒ D. all of the above

4. Foods from the meat, poultry, fish dry beans, eggs and nuts group are an important source of _____?

- ☒ A. iron
- B. fiber
- C. beta carotene
- D. calcium

5. Which of the following nutrients is needed to build and maintain the structural components of the body?

- A. Carbohydrates
- ☒ B. Protein
- C. Fat
- D. Fiber

5. Which of these nutrients is the preferred energy source for the body?

- A. B Complex Vitamins
- ☒ B. Carbohydrates
- C. Fats
- D. Fiber

6. The difference between fats and oils is, fats

- A. have a high percentage of fatty acids as saturated fatty acids
- B. have a high percentage of fatty acids as unsaturated fatty acids
- ☒ C. are solid at room temperature
- D. are usually obtained from plant sources
- ☒ E. both a and c

7. In the body, excess energy is

- A. stored as free fatty acids in muscle tissue
- ☒ B. stored as glycogen, as the body has unlimited capacity to store water and carbohydrate
- C. stored as triglycerides in adipose tissue
- D. excreted by way of the urine and stool (feces)

8. The foods most often contaminated with aflatoxins are

- A. cheeses made from unpasteurized milk
- B. meats from wild animals such as bear and deer
- ☒ C. fish and shellfish
- D. wheat, corn, peanuts and tree nuts

9. Cross-contamination of foods occurs

- A. when perishable foods are kept at room temperature up to two hours
- B. when two or more food handlers are working with the same food
- C. when two or more different microorganisms are growing in the same food
- ☒ D. when a utensil contaminated with a microorganism from a previously handled food is allowed to come in contact with a second food and contaminates it

10. A reliable source of dietary iodide is

- ☒ A. iodide-fortified salt
- B. seed oils
- C. sea salt
- D. freshwater fish

12. After digestion and absorption, dietary carbohydrate may be:

- ☒ A. used for energy
- B. converted to glycogen and stored in liver or muscle tissue
- C. synthesized into fat
- ☒ D. a, b, and c
- E. none of the above

next time choose only one answer

14. A substance intentionally added that affects the nature and quality of food is called _____

- a) Food poison
- ☒ b) Food adulterant
- c) Food contaminant
- d) Food material

15. Why are food adulterants added?

- a) To increase shelf-life of products. E.g.- Urea
- b) To improve flavor color and appearance
- c) To sell lesser quantity at the same price
- ☒ d) All the mentioned

16. Methods for detection of common adulterants are _____

- a) Visual tests
- b) Chemical tests
- c) Physical tests

(d) All of the mentioned

SECTION B. ANSWER ALL QUESTIONS

1. What are the key components of the definitions of "Functional Foods" and "Nutraceuticals", as defined by Food and Drug Act Cap 303? How do these relate to "foods", "Novel Foods" and "Natural Health Products"? Use examples to support your answer
2. Besides the information contained in the definitions in Question 1 above, what other factors might need to be considered in deciding if a Functional Food or Nutraceutical is physiologically-functional.
3. What is meant by "bioaccessibility" and by "bioavailability"? What factors influence these parameters and how could they be improved?
 - a) What is over nutrition or undernutrition?
 - b) What are the three major sources of three major macronutrient?
 - c) What are the three major sources of three micronutrients?

SECTION C ANSWER ONE QUESTIONS

1. What are the main factors influencing food choice among adolescents? To what extent are these choices impacting on diet related diseases?
2. What should be the main diet and lifestyle of consumers to avoid over nutrition and nutrition related disease. Give examples of such nutrition related diseases

SECTION B (2016133036)

Question 1:

functional foods are foods that provide health benefits beyond traditional basic nutrients. E.g Lycopene found in tomatoes which prevents prostate cancer in males.

Nutraceuticals are food supplements that are manufactured to provide extra health benefits. Examples of these are those tablets made ~~not~~ containing essential nutrients in them which ~~are~~ claims to provide a good mood for example and to provide the brain with good memory.

They relate to "foods", "novel foods" and "natural health products" because they all ~~also~~ provide essential nutrients for the normal functioning of the body.

For example, fish contains calcium which is important for strong bones and teeth and orange juice may be fortified with calcium to provide the same health benefit.

Again, natural vitamin B6 found in fish can be used to fortify breads and cereals to provide the same health benefits.

Question

SECTION B

(2016131036)

Question 2:

- Effectiveness of functional foods or nutraceutical
- Ability of acceptable results by majority
- Again, if there are good reports about these substances from ~~the~~ ^{individuals} people who have used them before.
- If they do not have ^{side effects which} can be a danger to human health.
- If the products are not compromised by ~~the~~ individuals who have used them before.
 - State of persons health
 - Evidence based data of its functionality

Question 3 !

Bioaccessibility is a condition where foods are easily accessible or where food can be reached by individuals and utilized.

Bioavailability is where foods are available but not necessarily reached by individuals. Factors that influence these parameters are Biological, Environmental and economic factors.

(a) Over nutrition is where ¹an individual consumes food above the normal required intake of it.

Under nutrition applies when ¹an individual's food intake is deprived of normal required nutrients.

~~(b) proteins~~

(b) Major macronutrient:
Major sources:

proteins

~~Plants~~ Animals
(e.g. beef)
Legumes
Fish

carbohydrates

Plants ¹
(e.g. cereals)
wheat
Rice
maize

Lipids

Fats and oils
(e.g. Butter)

(c) Micronutrients:

Vitamin A

Major sources:

Fruits and ¹coloured vegetables
(e.g. Carrots)

Potassium
~~Vitamin D~~

Fruits and ¹vegetables
(e.g. Bananas)

Calcium

Fish

SECTION C (2016/2036)

Question 2:

The main diet of consumers should be a balanced diet. A balanced diet which comprises of proteins, carbohydrates, lipids, dietary fiber, vitamins and water.

Proteins in the diet is essential for growth and repair of our own tissues. Carbohydrates provides energy for the body. Lipids are also important in a diet for formation of cell membrane and providing warmth for the body. Dietary fibres prevents constipation. Again, vitamins are important for metabolic reactions in the body and lastly, water which is used in the transportation of nutrients and keeps balance.

Therefore, the lifestyle of consumers should be that of exercises, ^{controlling} ~~balancing~~ food intake, eating a variety of foods to obtain essential nutrients for the body and making a food plan or food timetable to control your diet.

A healthy nutrition is important to prevent nutrition related diseases such as anorexia nervosa,

Bulimia nervosa, Binge disorder, obesity, marasmus, Kwashiorkor, Hypertension, High blood pressure, Cardiac disease, Cancer and liver damage.