

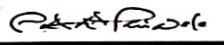


ELIZADE UNIVERSITY
FACULTY OF BASIC AND APPLIED SCIENCES

DEPARTMENT: PHYSICAL AND CHEMICAL SCIENCES
PROGRAMME: BIOCHEMISTRY EXAM TITLE: DEGREE EXAMINATION
COURSE CODE & TITLE: BCH 301 – NUTRITIONAL BIOCHEMISTRY

TIME ALLOWED: 2 hrs SEMESTER/SESSION: FIRST / 2020/2021

INSTRUCTIONS: Write your matriculation number on the cover page of the exam booklet.


HOD's SIGNATURE

1. Answer two [2] questions from each section
2. Answer each section in a separate booklet.

SECTION A

(1) Study and give the description of nutrition facts in the images designated as [A] and [B]. Which of it will you recommend for an aged, diabetic patient with heart disease and give reasons for your choice.....15 marks

Nutrition Facts	
Serving Size 1 cup (8g) Servings Per Container	
Amount Per Serving	
Calories 35	Calories from Fat 10
	% Daily Value*
Total Fat 1g	2%
Saturated Fat 0g	0%
Trans Fat 0g	
Polyunsaturated Fat 0.5g	
Monounsaturated Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 6g	2%
Dietary Fiber 2g	8%
Sugars 0g	
Protein 1g	
Vitamin A 0%	Vitamin C 0%
Calcium 0%	Iron 0%
*Percent Daily Values are based on a diet of 2,000 calories. Your daily values may be higher or lower depending on your calorie needs.	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
Saturated Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram: Fat 9 • Carbohydrate 4 • Protein 4	

[A]

Nutrition Facts	
Valeur nutritive	
Per 4 cookies (28g) / par 4 biscuits (28g)	
Amount	% Daily Value
Teneur	% valeur quotidienne
Calories / Calories 130	
Fat / Lipides 4.5 g	7 %
Saturated / saturés 2.5 g + Trans / trans 0.1 g	13 %
Cholesterol / Cholestérol 5 mg	
Sodium / Sodium 65 mg	3 %
Carbohydrate / Glucides 19 g	6 %
Fibre / Fibres 2 g	8 %
Sugars / Sucres 5 g	
Protein / Protéines 3 g	
Vitamin A / Vitamine A	0 %
Vitamin C / Vitamine C	0 %
Calcium / Calcium	0 %
Iron / Fer	2 %

[B]

(2) Inhibition of the action of enzymes like [i] acetylcholinesterase, [ii] α - glucosidase and [iii] angiotensin-1 converting enzyme is adjudged a useful approach in the management of some degenerative diseases. Identify the disease linked with each of the enzymes above and Describe how a named functional food could be useful in their management.....15 marks

(3a) Briefly describe the following terms:

- (i) Energy value.....2 marks
- (ii) Food Preservation.....2 marks
- (iii) Body Mass Index.....2 marks
- (iv) Basal Metabolic Rate.....2 marks
- (v) Recommended Dietary Allowance.....2 marks

(3b) Calculate the energy value and percentage of total energy intake for each nutrient in a wrap of fufu, if the wrap contains 352g of carbohydrate, 105g of fat and 42g of protein.....5 marks

SECTION B

QUESTION 1

1a. Briefly define;

- i. Nutritional status..... 1 mark
- ii. Desirable nutrition.....1 mark
- iii. Over-nutrition..... 1 mark
- iv. Under-nutrition.....1 mark

1b. mention and explain briefly the methods of nutritional assessment..... 5 marks

1c. factors contributing to nutritional status in a healthy individual..... 6 marks

QUESTION 2

- a) Define Energy Balance.....5 marks
- b) Differentiate between Kwashiokor and Marasmus in a growing child physiologically..... 5 marks
- c) Describe the ways of treating under-nutrition in children..... 5 marks

QUESTION 3

- a. Explain the factors contributing to Food Safety or Intoxication concern..... 3 marks
- b. Mention four (4) agents of Food Intoxication..... 4 marks
- c. Explain any two of the following with respect to food intoxication, Include their mechanism of intoxication, symptoms and prevention
 - i. *Clostridium botulism*..... 4 marks
 - ii. *Salmonella* bacteria..... 4 marks
 - iii. Food borne parasites..... 4 marks
 - iv. Chemical agents..... 4 marks