

**NATIONAL UNIVERSITY OF LESOTHO**  
**FACULTY OF HEALTH SCIENCES**  
**DEPARTMENT OF NUTRITION**  
**END OF SEMESTER ONE EXAMINATION**

**NUT 3312- CLINICAL NUTRITION I**

**Jan: 2024**

**Marks : 100**

**Time: 3hours**

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**Instruction: This paper has two sections A and B**

**Section A carries a total of 30 marks**

**Section B carries a total of 70 marks.**

**Answer all questions.**

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**Section A: Choose the correct answer and write in your answer booklet. (2 marks)**

1. Symptoms of irritable bowel syndrome most often include .....

  - a. Nausea and vomiting
  - b. Weight loss and malnutrition
  - c. Strong odors and obstruction
  - d. Constipation, diarrhoea and flatulence

2. Osmotic diarrhoea often results from

  - a. Excessive colonic contractions
  - b. Excessive fluid secretion by the intestines
  - c. Nutrient malabsorption
  - d. Viral, bacterial or protozoa

3. A person on gluten-free diet must avoid products containing

  - a. Wheat, barley, rye
  - b. Barley, soybeans and corn
  - c. Wheat, corn and rice
  - d. Buckwheat, rice, millet

4. Chronic pancreatitis and cystic fibrosis are both treated with

  - a. Intestinal resection
  - b. Postural drainage
  - c. Enzyme replacement therapy
  - d. Stool softener

5. A complication of liver disease that contributes to development of ascites is .....

  - a. Portal hypertension
  - b. Rising blood ammonia level
  - c. Elevated serum albumin levels
  - d. Insulin resistance

6. The smallest lipoproteins in terms of size is

  - a. Chylomicron
  - b. HDL
  - c. IDL
  - d. LDL

7. Most kidney stones are made primarily from

  - a. Calcium oxalate
  - b. Cystine
  - c. Uric acid
  - d. Struvite

8. Which of the following nutrients may be unintentionally restricted when a patient restricts phosphorus intake?

- a. Fluid
- b. Potassium
- c. Calcium
- d. Sodium

9. The correct order of lipoproteins in terms of density from the lowest to the highest is

- a. VLDL , IDL ,LDL ,HDL ,Chylomicrons
- b. IDL , VLDL , LDL , HDL , Chylomicrons
- c. Chylomicrons , VLDL , LDL ,HDL , IDL
- d. Chylomicrons , VLDL , IDL , LDL , HDL

10. Lipoproteins are made up of the following; cholesterol, phospholipids, proteins, and triglycerides.

- a. True   b. False

11. The most common cause of chronic kidney disease is.....

- a. Diabetes mellitus
- b. Hypertension
- c. Autoimmune disease
- d. Exposure to toxin

12. Fluid requirements for oliguric patients are estimated by adding about ..... Millilitres to the volume of urine output.

- a. 100
- b. 300
- c. 500
- d. 750

13. Dietary recommendations for patients with the nephrotic syndrome include;

- a. a high protein intake
- b. sodium restriction
- c. potassium and phosphorus restriction
- d. fluid restriction

14. Which of the following is not a function of the kidneys?

- a. activation of vitamin K
- b. maintenance of acid –base balance
- c. elimination of metabolic waste products

d. maintenance of fluid and electrolyte balances

15. Hypertensive patients can benefit from all of the following dietary and lifestyle modifications except:

a. Including fat-free or low-fat milk products in the diet

b. Reducing total fat intake

c. Consuming generous amounts of fruits vegetables, legumes and nuts.

d. Reducing sodium intake.

**Section B : This section carries 70 marks**

**Question 1**

Mr, Ndebele, a 45-year-old single man with hypertension (blood pressure 167/92), high low-density lipoprotein cholesterol (241mmol/L) and low high-density lipoprotein cholesterol (38mmol/L). He indicated that he often eats in his car and patronizes fast food restaurants frequently. He works long hours and other than gardening on the weekends, he does not exercise. He is 1.7 meters, 105kg. His breakfast is usually a cheese-egg biscuit, white toast with butter, bacon, and coffee without milk or cream. Lunch is a fried luncheon meat sandwich with mayonnaise, potato chips, and a piece of fruit pie with ice cream. Dinner is often fried chicken, mashed potatoes with gravy, creamed vegetables, and some type of whipped cream dessert.

- a. Using the information above, what are his nutritional diagnoses? Mention at least 5  
(5 marks)
- b. What diet therapy are you likely to recommend for him based on the diagnosis above?  
(5 marks)
- c. Counsel Mr. Ndebele on the role of lipoprotein cholesterols (LDL, HDL) in contributing to his condition.  
(4 marks)
- d. According to the scenario above, mention any **six 6** are risk factors Mr. Ndebele is likely to experience which will predispose him to cardiovascular disease?  
(6 marks)

**Total: 20 marks**

**Question 2**

Ntate Mosa is a 46 year old executive director of his company and travels extensively in his work. He recently visited his doctor complaining about upper gastrointestinal (GI) distress. He reports frequent bouts of heartburn in the middle of the night, and he has lost 10kg during the last year without intentionally dieting. Ntate Mosa also occasionally experiences heartburn soon after consumption of specific meals and foods. His doctor diagnosed oesophageal reflux, and X-ray studies revealed a hiatal hernia.

Ntate Mosa has received a good deal of advice regarding specific foods and diets from a variety of sources, but he is confused about what he should eat. He has been referred to you as a nutritionist to discuss appropriate nutrition therapies.

- a. What is the diagnosis for Ntate Mosa? (2 marks)
- b. Explain the term heartburn? (3marks)
- c. Does hiatal hernia have anything to do with the heartburn? (2 marks)
- d. Why might he experience burning after consumption of certain foods or meals? (3 marks)
- e. Mention any **five (5)** risk factors that can affect the diagnosis in Question (a above). (5 marks)
- f. What nutrition therapy would you recommend for Ntate Mosa ? (5 marks)

**Total: 20 (marks)**

**Question 3**

- a. Mention the diseases of the glomerulus. (4 marks)
- b. What is the difference between nephrotic syndrome and nephritic syndrome ( 6 marks)
- c. Outline the nutrition therapy for a patient with liver cirrhosis. (5 marks)
- d. Outline the step by step process of development of atherosclerosis. (5 marks)
- e. What are the therapeutic lifestyle changes one can adopt in reducing risk of coronary heart disease? (10 marks)

**Total: 30 (marks)**

End

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