

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MSc HUMAN NUTRITION EXAMINATION – JANUARY 2022

Date:- 11th January 2023

Time:- 9.30 a.m. – 12.30 p.m.

STRUCTURED ESSAY QUESTION PAPER

Answer **all six (06)** questions.

Each question to be answered in a separate book.

1.

1.1. Provide an example for each of the following food groups 1.1.1 to 1.1.5, with a fermented food product including its raw food item.

1.1.1. Cereals

1.1.2. Root and tubers

1.1.3. Legumes

1.1.4. Vegetables and fruits

1.1.5. Dairy (15 marks)

1.2. Outline the role of microorganisms involved in enhancing or changing the nutritional value of two raw food items you have mentioned in 1.1 after fermentation. (20 marks)

1.3. Give an example for a naturally occurring toxin in each of the following food items.

1.3.1. Cassava

1.3.2. Potato

1.3.3. Soya bean (10 marks)

1.4. Outline ways of inactivating or preventing the formation of the toxins mentioned above during handling, processing or storage. (20 marks)

1.5. Outline five (05) important reasons for conducting sensory evaluation in food industry. (20 marks)

1.6. Name the most critical microbial hazard that can occur during processing of the each of the following products.

1.6.1. Fresh legume sprouts

1.6.2. Desiccated coconut

1.6.3. Canned fish (15 marks)

Contd...../2-

- 2.
- 2.1. List five (05) non-metabolic medical complications of obesity. (15 marks)
- 2.2. Discuss the health benefits of consuming “five servings of fruits and vegetables per day”. (25 marks)
- 2.3. Compare and contrast intermittent fasting and personalised calorie deficit diet for obesity management. (50 marks)
- 2.4. Outline why resistance exercises are important in weight maintenance. (10 marks)
3. A 25-year-old woman was referred to the Healthy Lifestyle Centre (HLC) because her father has a history of diabetes. Her random blood glucose concentration was 210 mg/dL. Following her first clinic visit, she defaulted care for 5 years.
 - 3.1. What are the eligibility criteria used to identify individuals for referral to HLC? (20 marks)
 - 3.2. Describe the functions of the HLC. (20 marks)
 - 3.3. Outline the possible complications she may have developed in the last 5 years. (10 marks)
 - 3.4. Explain the biochemical basis of possible complications and progress of her condition. (30 marks)
 - 3.5. Explain the dietary and lifestyle advice you would give her. (20 marks)
4. A four-year-old boy is brought to the nutrition clinic for growth assessment. It is observed that his weight has dropped by 1 kg after his last measurement. However, he is within the green zone of weight-for-age chart of CHDR. The mother complained that she was unable to provide usual food to him due to high food prices during the last 6 months.
 - 4.1. List three (03) anthropometric indices that you would use to assess the nutritional risk of this child. (10 marks)
 - 4.2. Briefly describe how you would assess this child to arrive at a clinical decision. (25 marks)
 - 4.3. List factors to consider in calculating nutritional requirements of this child. (15 marks)
 - 4.4. Describe the nutritional management of this child. (40 marks)
 - 4.5. List two (02) main criteria used in monitoring to assess the response to management. (10 marks)

5.

- 5.1. Outline with three (03) reasons, why nutrition education is important in any nutrition intervention. (15 marks)
- 5.2. Describe why community practices are important to consider in a nutrition intervention, giving three (03) reasons. (30 marks)
- 5.3. List five (05) characteristics to consider in developing health communication material to promote nutrition. (15 marks)
- 5.4. Mention a health promotion setting you can use to promote nutrition. Briefly describe how this setting can be used to promote nutrition with five (05) examples. (30 marks)
- 5.5. List five (05) activities which will improve the sustainability of any nutrition intervention. (10 marks)

6.

- 6.1. As the medical officer nutrition of a base hospital, you are entrusted to ascertain the diet of inmates residing in a home for elders in the present economic condition.
- 6.1.1. List steps you would take to ascertain the situation. (10 marks)
- 6.1.2. Briefly describe the usefulness and drawbacks of one of the sources of information used for the above purpose. (20 marks)
- 6.1.3. How would you monitor the implementation of a project to improve provision of diet to the inmates. (10 marks)
- 6.1.4. List two (02) indicators to evaluate the above project in question 6.1.3. (10 marks)
- 6.2. You are planning to conduct a case-control study to identify the determinants of osteoporosis among inmates of the above home.
- 6.2.1. List four (04) possible sources of controls for your study. (20 marks)
- 6.2.2. Describe, giving reasons, the advantages, and disadvantages of three (03) sources mentioned in 6.2.1 for selecting controls. (30 marks)

