POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MSc IN HUMAN NUTRITION EXAMINATION – JANUARY, 2019

Date : 8th January 2019   **Time:** 9.30 a.m. – 12.30 p.m.

Answer **all six (06) questions.**
Each question to be answered in a separate book.

1. Despite your advice to control diet among diabetic patients attending the clinic, their dietary patterns have not changed as expected. After discussing with your staff, you decided to carry out **three activities:**
    (i). conduct a **Knowledge, Attitudes and Practices** (KAP) study
    (ii). develop a set of **new health education material**
    (iii). establish a **patient support group** to empower patients to control their diet.

    1.1. Outline the main steps of the KAP study. (35 marks)

    1.2. List other information you would require to plan and develop health education material. (15 marks)

    1.3. List two (02) indicators each, to monitor the progress of the three (03) activities. (30 marks)

    1.4. List five (05) key principles that you will follow in evaluating the establishment of the patient support group. (20 marks)

2. A 65-year-old patient with an oesophageal cancer is admitted to the surgical ward. His current body weight is 41kg, and height is 166 cm. His usual body weight was 62 kg. In the ward, blended foods were started through a nasogastric (NG) tube.

    2.1. State two (02) methods to confirm the correct placement of the NG tube. (10 marks)

    2.2. Compare and contrast blended foods with oral nutritional supplement formulae in the management of this patient. (25marks)

    2.3. List three (03) risk factors for refeeding syndrome relevant to this Patient. (15 marks)

    2.4. Discuss the management of refeeding syndrome in this patient. (50 marks)

3. Sunimal, a 9-year-old school boy was identified to be obese during the school medical inspection.

    3.1. Define obesity in a school child. (10 marks)

    3.2. Describe the pathogenesis of obesity. (25 marks)

    3.3. Explain the relationship between adiposity and chronic inflammation.
    (25 marks)

    3.4. Outline a programme to prevent and control obesity among primary school children in this school. (40 marks)

4. A 15-year-old boy is admitted to hospital with diarrhoea and abdominal pain. He has an unintentional weight loss of 7 kg in the last 3 months which is more than 10% of his usual weight. Laboratory investigations reveal the following:

- Serum Albumin   3.1 g/dL   (3.4 - 5.4 g/dL)
- Total serum protein   5.2 g/dL   (6.0 - 8.3 g/dL)
- Haemoglobin   9.3 g/dL   (13- 15 g/dL)
- haematocrit   27%   (35%-45%)
- MCV   71 fL   (80 - 95 fL)
- WBC   11500 /μL   (5000-10000 /μL)

Further studies demonstrated inflammation of the ileum and caecum.

    4.1. Outline the nutritional assessment of this patient. (30 marks)

    4.2. Describe the medical nutrition therapy you would recommend for this patient. (50 marks)

    4.3. Prepare a follow-up plan of this patient.

    (20 marks)

5.

5.1. "Breastfeeding not only provides nourishment, but also protects the infant and young child from infections".
Discuss this statement. (50 marks)

5.2. Despite implementation of globally recommended interventions to improve nutritional status in Sri Lanka, nutritional indicators are unsatisfactory in contrast to most other health indicators.

5.2.1. List five (05) underlying causes for this situation. (15 marks)

5.2.2. Describe the actions that should be taken by the Government of Sri Lanka to overcome this situation. (35 marks)

6.

6.1. Outline the importance of "active and intelligent" packaging of food. (30 marks)

6.2. Discuss giving examples, the food technological applications aimed at controlling diet-related non-communicable diseases. (70 marks)