2916/202
DIET THERAPY II AND NUTRITION IN
LIFESPAN PRACTICE
Oct./Nov. 2022
Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN NUTRITION AND DIETETICS

MODULE II

DIET THERAPY II AND NUTRITION IN LIFESPAN PRACTICE

3 hours

INSTRUCTIONS TO CANDIDATES

This paper consists of FOUR questions.
Question I carries 40 marks while questions 2, 3 and 4 carry 20 marks each.
Answer ALL the questions in the answer booklet provided.
Maximum marks for each part of a question are indicated.
Candidates should answer the questions in English.

This paper consists of 5 printed pages.

Candidates should check the question paper to ascertain that all
the pages are printed as indicated and that no questions are missing.

Turn over

1. **CASE STUDY I**

Read the case study below and then answer the questions that follow.

On completing his Diploma in Nutrition and Dietetics, Boit undertook a one year internship programme at a local hospital. He was taken through a two week orientation together with six other interns. Upon completion of orientation, Boit and the other interns were required to review their knowledge in nutrition and dietetics. They took a medical terminology test, performed clinical examination test to access nutrition status, reviewed laboratory values and did a practice case study. The rest of the routine involved reviewing the available guidelines for patient management, practicing counselling techniques, role playing, calculating patient's nutrition requirements from available records and attending ward rotations with the facility's health care team.

(a) Indicate the meaning of the following medical abbreviations: (1 mark)

    (i)   Kcals;   (1 mark)
    (ii) TPN;   (1 mark)
    (iii) IBW;   (1 mark)
    (iv) RDA;   (1 mark)
    (v) Hb.

(b) Distinguish between nutrition screening and nutrition assessment.   (4 marks)

(c) Explain the significance of the following laboratory values in nutrition:

    (i)   Blood Urea Nitrogen (BUN);   (2 marks)
    (ii) haemoglobin;   (2 marks)
    (iii) blood sugar;   (2 marks)
    (iv) creatinine;   (2 marks)
    (v) albumin.   (2 marks)

(d) Explain to Boit the significance of the following information in determining the nutritional risk for patients:

    (i)   living environment;   (2 marks)
    (ii) family medical history;   (2 marks)
    (iii) medication;   (2 marks)
    (iv) physical capacity.   (2 marks)

(e) Suggest **four** factors that may determine dietary modification for patients.   (8 marks)

(f) Outline **five** symptoms that Boit may observe in a patient experiencing dehydration.   (5 marks)

2. **CASE STUDY 2**

Read the case study below and then answer the questions that follow.

Nashe, a 42 year old primigravida has visited the prenatal health clinic as she is anxious about the pregnancy experience. Nashe is currently in her second month of pregnancy. She reports experiencing pica, aversions and cravings that have made food choice difficult for her. On assessment you establish that she weighs 72 kg and her haemoglobin levels are 10 gm/dl. Further investigation reveals that Nashe's diet includes several factors that inhibit her ability to absorb ingested iron. Overall, her dietary intake requires modification so as to prevent malnutrition for her and the infant. Nashe is willing to follow the care plan that you draw out for her.

(a) Explain the meaning of the following terms:

    (i) primigravida; (2 marks)

    (ii) prenatal. (2 marks)

(b) Describe the following conditions in relation to pregnancy.

    (i) cravings and aversions; (3 marks)

    (ii) pica. (3 marks)

(c) Identify **four** dietary factors that may inhibit iron absorption for Nashe. (4 marks)

(d) Indicate the possible micronutrient deficiency in the mother against the clinical characteristics of malnutrition manifested in the infant using the table below:

Clinical characteristics of malnutrition in infants		Possible micronutrient deficient in mothers	
(i)	Congenital rickets	_____	(1 mark)
(ii)	Infantile beriberi	_____	(1 mark)
(iii)	Cretinism	_____	(1 mark)
(iv)	Spina bifida	_____	(1 mark)
(v)	Impaired vision	_____	(1 mark)
(vi)	Anaemia	_____	(1 mark)

3. **CASE STUDY 3**

Read the case study below and then answer the questions that follow.

Mabaswa is a 54 year old male known chronic alcoholic. On one particular incident, he spent the day normally and retired to bed at 10 pm, apparently sober. The following morning, his daughter noticed that he was mentally confused and an hour later he was found completely unconscious. A physician's examination indicated that Mabaswa's skin was moist and his head gave an occasional twist. His room had a fruity smell. Mabaswa was taken to hospital in a comatose state. His urine tested positive for ketones and negative for glucose. Treatment to resolve ketosis commenced and Mabaswa was able to regain consciousness. The physician explain Mabaswa's daughter that hypoglycaemic coma after alcohol intoxication was usually associated with poor diet and that he required treatment for alcoholism and dietary intervention.

(a) Describe the following:

    (i) ketosis;   (2 marks)
    (ii) hypoglycaemia;   (2 marks)
    (iii) alcohol intoxication.   (2 marks)

(b) Explain why Mabaswa developed alcoholic ketoacidosis.   (3 marks)

(c) Identify **five** other health risks associated with chronic alcohol use.   (5 marks)

(d) Explain how the following liver functions are affected if Mabaswa's alcoholism is **not** resolved:

    (i) carbohydrate metabolism;   (2 marks)
    (ii) amino acid metabolism;   (2 marks)
    (iii) lipid metabolism.   (2 marks)

4.   **CASE STUDY 4**

Read the case study below and then answer the questions that follow.

Halima is a 68 year old woman who lives with her 70 year old husband. She has eight grown-up children who live on their own. Halima had worked as a cleaner for 30 years but had to quit her job when she started experiencing difficulty in mobility. Her husband does most of the house chores since Halima was diagnosed with osteoporosis. She attends the outpatient bone health and osteoporosis clinic and has been referred to you for dietetic assessment and advice.

(a)   Distinguish between osteoporosis and osteoarthritis.   (4 marks)

(b)   Explain to Halima how the following hormones are associated with bone growth and maintenance:

      (i)   oestrogen;   (2 marks)
      (ii)   growth hormone.   (2 marks)

(c)   Identify **two** nutrients that form the bone matrix.   (2 marks)

(d)   State **five** dietary factors that affect how well Halima's body absorbs the calcium she ingests.   (5 marks)

(e)   Highlight **five** factors that may predispose women of Halima's age to osteoporosis.
                                                                                         (5 marks)

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