B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

September / October 2023 Supplementary Examinations

Programme: B.E.   **Semester: VI**
Branch: Institutional Elective   **Duration: 3 hrs.**
Course Code: 19BT6OEHAN   **Max Marks: 100**
Course: Health and Nutrition   **Date: 25.09.2023**

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

UNIT - I

1 a) The three important organic biopolymers supplied in the diet serves as source of energy. Identify the predominant energy source and show how these three biomolecules are catabolized in one pathway. **10**

   b) Define malnutrition. Discuss the challenges set ahead to curtail the malnutrition across the globe. **05**

   c) Infer the relationship between nutrition and health. **05**

UNIT - II

2 a) Discuss the various levels of body composition in the increasing hierarchical order. **10**

   b) Describe a direct method of determination of body composition in the in-vivo level. **05**

   c) Give the graphical representation to show the frequency distribution of individual requirements for a nutrient. **05**

OR

3 a) Discuss any three methods to determine the dietary requirements. Comment on their merits and demerits. **10**

   b) Write the present deviations in the conceptual approach towards setting the nutritional requirements **05**

   c) Comment on the uses of dietary recommendations. **05**

UNIT - III

4 a) 'Some of the elements are needed for the body in very minute amounts but are very essential that the deficiency leads to various health complications. Justify the statement with suitable examples and description. **10**

   b) Scenario 1: A child has experienced following clinical symptoms **05**
      - Difficulty walking.
      - Loss of feeling (sensation) in hands and feet.

- Loss of muscle function or paralysis of the lower legs.
- Mental confusion/speech difficulties.

Scenario 2: An adult person has experienced following clinical symptoms

- Fatigue.
- Bone pain.
- Muscle weakness, muscle aches, or muscle cramps.

Name the essential nutrient the deficiency of which caused the symptoms mentioned. Discuss the dietary sources and metabolic importance of the identified essential nutrient.

c) An adult woman reported to have RBC count of 2.5×10^6/L which was around 50% less compared to normal count in a healthy woman. **05**

List the reasons pertain to important nutrient for such lower count of RBCs and discuss the effect of such lower amounts of RBCs.

UNIT - IV

5 a) Distinguish artificial flavors from natural flavors with suitable examples. Highlight the constraints of exploring natural flavors at commercial scale and impact of use of artificial flavors. **10**

b) 'Artificial food colors have nutritional benefits similar to natural food colors. Decide whether the statement is right and justify suitably. **05**

c) Sweeteners come to the rescue of most diabetic patients to provide the much-needed taste. Discuss. **05**

UNIT - V

6 a) Considering India in to context, discuss how our age old societal and cultural practices have influenced the choice of the food. **10**

b) What is EAR? Comment on its impact on the recommendation of the optimal nutrient intake for the people. **05**

c) Write a brief note on the general guidelines laid down by competent authority of food standards. **05**

OR

7 a) Discuss on the dietary guidelines currently in place specific to the children. **10**

b) Infer on the major two levels of recommended dietary intake. **05**

c) The technological advancements and modernized society has significantly changed the food habits from time to time. Discuss. **05**

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