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MFN-004

**MASTER OF SCIENCE (FOOD AND
NUTRITION) M. SC. (DFSM)**

Term-End Examination

December, 2022

MFN-004 : ADVANCE NUTRITION

Time : 3 Hours

Maximum Marks : 100

***Note :** Question No. 1 is compulsory. Attempt **five** questions in all. All questions carry equal marks.*

1. (a) Define or explain the following in **2-3** sentences each : 10 each
- (i) Estimated Average Requirement (EAR)
 - (ii) Nutrient Balance Studies
 - (iii) WHO classification for chronic energy deficiency and/or underweight
 - (iv) Protein-Energy Ratio (NDP cal %)
 - (v) Essential Fatty Acids (EFA)

P. T. O.

- (b) Differentiate between the following sets of terms : 2 each
- (i) PAL and PAR
 - (ii) Intracellular and Extracellular fluid compartment
 - (iii) Retinol and Beta carotene
 - (iv) Probiotic and Prebiotic
 - (v) Exchange list and Food composition table
2. (a) Briefly explain the major determinants of nutrient requirements. 8
- (b) What are the factors affecting the energy expended in physical activity ? Explain briefly. 6
- (c) Briefly discuss the consequences of energy imbalance. 6

3. (a) Enumerate the various methods you may adopt to improve the quality of protein in a plant based diet. 6
- (b) Briefly explain the digestion, absorption and utilization of fats in our diet. 7
- (c) Elaborate on the functions of Vitamin K in our body. 7
4. (a) Comment on the food sources and the bioavailability of the following in our diet : 5+5
- (i) Niacin
- (ii) Vitamin A
- (b) Explain the role of Vitamin D in calcium homeostasis. 5
- (c) Briefly explain the role of folate in our body. 5
5. (a) What are electrolytes ? Enlist their functions in our body. 5

- (b) What is the effect of the following in our body ?
- (i) Phytoestrogens 5
 - (ii) Amylase Inhibitors 5
- (c) Enlist the dietary factors affecting iron absorption. 5
6. (a) Give the nutrient requirements for a woman in the 6-12 months of lactation. Comment on the effect of malnutrition or lactation performance. 10
- (b) Present the recommended dietary allowances for energy, protein, iron and calcium for infants (6-12 months). What points would you keep in mind while feeding them ? 10
7. (a) Enumerate the dietary modifications you would advocate in the diet of elderly. 6
- (b) Why is adolescent a critical growth period ? What nutrients would you advocate in the diet of an adolescent girl and give the RDA ? Also, highlight the points you would keep in mind while feeding adolescents. 3+3+4

- (c) Enlist the common concerns during pregnancy. 4

8. Write short notes on any *four* of the following :

5+5+5+5

- (i) Energy, carbohydrate demands during sports activity
- (ii) Nutritional requirement in hot environment
- (iii) Nutrient requirement during emergencies
- (iv) Physiological changes during pregnancy
- (v) Effect of zinc deficiency