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MFN–004

**MASTER OF SCIENCE (DIETETICS
AND FOOD SERVICE MANAGEMENT)**

M. SC. (DFSM)

Term-End Examination

June, 2024

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) What do you understand by nutrition service ? 2

- (b) Differentiate between Recommended Dietary Allowance and Estimated Average Requirement, giving suitable example. 4

P. T. O.

- (c) What is BMR ? Enlist any *four* factors affecting BMR. 2+2
- (d) What are Insoluble and Soluble dietary fibres ? Explain in 2-3 sentences each giving examples. 4
- (e) Give the classification of proteins based on the amino-acids content in food. 3
- (f) Give the recommendations (EAR) for the following nutrients for an adult sedentary woman : 3
- (i) Thiamine
 - (ii) Iron
 - (iii) Vitamin B₁₂
2. (a) Explain briefly how physical activity influences the energy expenditure and requirement for adults. 8

(b) Define chronic energy deficiency (CED). Present the classification you will use to define chronic energy deficiency and underweight among adults. Highlight the consequences of CED. 2+4+6

3. (a) Enumerate any *two* methods you may use to assess the quality of protein in your diet.

$$2\frac{1}{2}+2\frac{1}{2}$$

(b) Discuss the measures you would advocate to vegetarians for improving the quality of protein in their diet. 5

(c) What are essential fatty acids ? Give the recommendation proposed by ICMR for meeting their requirement. 5

(d) Explain briefly the potential health benefits of dietary fibre in our diet. 5

4. Explain the role/functions of the following nutrients : 5+5+5+5
- (a) Vitamin E in the protection of unsaturated fatty acids in our diet
 - (b) Vitamin K in the formation of blood clot
 - (c) Folate in DNA synthesis and methylation cycle
 - (d) Calcium in the mineralization of bone.
5. (a) What do you understand by the term bioavailability ? Enumerate the factors influencing the bioavailability of the following nutrients in our diet : 2+4+4
- (i) Iron
 - (ii) Carotenoids
- (b) What are functional foods ? Elaborate on the potential health implications of functional foods giving examples. 2+8

6. (a) What do you understand by the term maternal malnutrition ? Discuss briefly the impact of maternal malnutrition on :

2+4+4

(i) Lactation performance

(ii) Foetal outcome

- (b) What is growth monitoring ? Explain the tool used for growth monitoring highlighting its uses.

2+4

- (c) Present the feeding schedule for infants which you would advocate to mothers. 4

7. (a) What is a pre-event meal ? Give its relevance and guidelines you would keep in mind while planning a pre-event meal for an athlete.

2+2+4

- (b) Present the nutrient requirements and dietary guidelines you would recommend for :

5+5

(i) Astronauts in space mission

(ii) People living in high altitude

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

5+5+5+5

- (a) Dietary modifications in the diet of elderly
- (b) Role of Selenium in our diet
- (c) Nutrient needs of Indian adolescent girls
- (d) Gene expression process
- (e) Anti-nutrition factors in foods