

No. of Printed Pages : 7

**MFN-004**

**MASTER OF SCIENCE**  
**(DIETETICS AND FOOD SERVICE**  
**MANAGEMENT)**  
**[M. SC. (DFSM)]**  
**Term-End Examination**  
**December, 2025**

**MFN-004 : ADVANCE NUTRITION**

*Time : 3 Hours*

*Maximum Marks : 100*

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**Note :** (i) *Question No. 1 is compulsory.*

(ii) *Answer **five** questions in all.*

(iii) *All questions carry equal marks.*

1. (a) What do these terminologies indicate with reference to nutrient requirements ? Define them :  $2\frac{1}{2} \times 4 = 10$
- (i) Acceptable Macronutrient Distribution Ranges (AMDRs)
  - (ii) Tolerable Upper Level (TUL)
  - (iii) Balance Studies
  - (iv) Estimated Average Requirement (EAR)
- (b) Explain the following in **2-3** sentences each :  $2\frac{1}{2} \times 4 = 10$
- (i) Oral Rehydration Syrup (ORS) always contains sodium chloride and glucose/sugar
  - (ii) Foods with high GI content favour the risk of obesity

(iii) Proteins as carriers

(iv) Role of DHA in foetal and early  
infant growth

2. (a) What is Factorial Estimation of Total Energy Expenditure ? Explain in the context of an adult women, with appropriate example. 10
- (b) Briefly review some of the potential health benefits of dietary fibre giving appropriate justifications. 10
3. What do you understand by 'Protein Quality' ? Enumerate any *one* method you would use to assess protein quality and any *one* measure you would adopt to improve protein quality of a diet. 2+4+4

4. (a) The total fat intake in our diet, comprises of what components ? Explain giving examples the sources of fat in our diet. 10
- (b) Explain the concept of 'Water Balance'. Elaborate on the consequences of disturbance in fluid balance in our body. 5+5
5. Explain the role of the following in our body : 5+5+5+5
- (a) Rhodopsin cycle
- (b) Vitamin D in calcium homeostasis
- (c) Thiamine as a coenzyme in the metabolism of carbohydrates
- (d) Folate in DNA biosynthesis and methylation cycle

6. (a) Enumerate the functional effects of iron deficiency anaemia in our body. What measure has been adopted at national level to prevent iron deficiency ? 5
- (b) Explain the role of selenium in protection against lipid peroxidation. 5
- (c) What are Non-digestible Oligosaccharides ? Highlight their health benefits in human nutrition. 5
- (d) What is an exchange table ? Explain giving an example. 5
7. (a) Explain how pre-pregnancy weight, height and weight gain during pregnancy influence foetal outcome. 5

- (b) What dietary considerations you would keep in mind while planning meals for lactating women ? 5
- (c) What is growth monitoring ? How will you ascertain using growth chart that the child is healthy or malnourished ? 5
- (d) What is complementary feeding ? Give the feeding schedule for infants 6 months to 1 year of age. 5
8. Write short notes on any *four* of the following : 5+5+5+5
- (a) Nutritional needs of adolescents
- (b) Physiological changes and dietary modifications to accommodate these changes among the elderly

- (c) Pre-event meal and their guidelines in sports nutrition
- (d) Nutritional requirement in space mission
- (e) Meeting nutrient needs in hot environments

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