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**MFN-004**

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

**[M. Sc. (DFSM)]**

**Term-End Examination**

**June, 2021**

**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.*

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1. (a) Define reference man and reference woman in the context of nutrient requirements. 3
- (b) What is meant by 'specific dynamic action of food' ? 2
- (c) Give the WHO cut-off for classification of weight status for the following : 3
  - (i) Underweight adolescent (13-15 years of age)

- (ii) Morbid obesity in adult
- (iii) Severe chronic energy deficiency (grade III) in adult
- (d) Give *two* examples each of insoluble dietary fibre and soluble dietary fibre. 2
- (e) Name any *four* enzymes that help in protein digestion in our body. 2
- (f) What are essential fatty acids ? Give examples and their food sources. 3
- (g) List the consequences of disturbances in fluid balance. 2
- (h) What is meant by pre-formed vitamin A and pro-vitamin A ? Explain giving examples. 3
2. (a) With the help of a diagram, explain the concept of requirement for an essential nutrient, highlighting EAR, RDA, safe range of intake and upper intake level. 10
- (b) Briefly explain different methods you may adopt for studying the nutrient requirements of individuals. 10

**P. T. O.**

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3. (a) Enumerate the components of total energy expenditure in humans. 10  
(b) Briefly describe the physiological functions and benefits of dietary fibre in our body. 10
4. (a) Define chemical score and highlight its role as an important indices of protein quality. 6  
(b) What measures would you adopt to improve quality of protein in the diet ? 7  
(c) What are the recommendations given by ICMR (2010) for choosing cooking oil ? 7
5. Briefly discuss the functions of the following in our body : 10+10  
(i) Vitamin D and Vitamin K  
(ii) Thiamine and Folate
6. Explain the following briefly giving examples : 5+5+5+5  
(a) Vitamin B<sub>12</sub> deficiency in vegans  
(b) Factors affecting calcium absorption  
(c) Deficiency and excess of electrolytes and their consequences  
(d) Health benefits of fructans

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7. (a) How do the physiological changes during pregnancy influence the nutrient needs ? Explain highlighting the physiological changes and the RDA for pregnant women. 10  
(b) Briefly explain the nutritional problems of infant and preschoolers. 6  
(c) Present the simple nutritional guidelines you would advocate for adolescents. 4
8. Write short notes on any *four* of the following : 5+5+5+5  
(a) Techniques for measuring body composition  
(b) Energy requirements for different sports/activities  
(c) Changes in body composition in space mission and its impact on requirements  
(d) Nutritional management during emergencies  
(e) Advantages and guidelines for breast feeding

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