

**MASTER OF SCIENCE (DIETETICS AND
FOOD SERVICE MANAGEMENT) (M.Sc. DFSM)**

Term-End Examination

December, 2017

MFN-004 : ADVANCE NUTRITION

Time : 3 hours

Maximum Marks : 100

- Note :** (i) *Question No. 1 is compulsory.*
(ii) *Answer five questions in all.*
(iii) *All questions carry equal marks.*

1. (a) Name any one dietary factor (each) which $2\frac{1}{2}$ negatively affect the absorption of following nutrients in our diet :
- (i) Iron
 - (ii) Zinc
 - (iii) Calcium
 - (iv) Chromium
 - (v) Thiamin
- (b) Name the disease / disorder / condition $2\frac{1}{2}$ caused by the deficiency of the following nutrients in our body :
- (i) Riboflavin
 - (ii) Selenium
 - (iii) Potassium
 - (iv) Folate
 - (v) Vitamin K

- (c) Give one main function for each of the following nutrient : **2½**
- (i) Vitamin E
 - (ii) Pyridoxine
 - (iii) Zinc
 - (iv) Copper
 - (v) Fluorine
- (d) Give one example for each of the following along with one health benefit linked with each : **3**
- (i) Prebiotic
 - (ii) Polyphenol
 - (iii) Phytoestrogens
- (e) Enlist the food sources of the following antinutritional factors and give one toxic effect of each : **3**
- (i) Protease inhibitor
 - (ii) Amylase inhibitor
 - (iii) Phytate
- (f) List any five risk factors for poor pregnancy. **2½**
- (g) List any five nutrients which are of particular importance during the following physiological conditions / periods. Give their recommended dietary allowance too. **2+2**
- (i) Lactation
 - (ii) Adolescent Girls
2. (a) Differentiate between Recommended Dietary Allowances (RDA) and Dietary Reference Intakes (DRI's). What is the purpose behind setting these guidelines ? **5+3**
- (b) What is basal metabolic rate (BMR) ? **3+5**
Enumerate the factors which influence BMR.

- (c) Give the FAO/WHO classification you will use to classify adults for chronic energy deficiency and / or underweight. 4
3. (a) What is a dietary fibre ? Explain the physiological effect of fibre with respect to Water Holding Capacity (WHC) and Adsorption property, giving examples. 10
- (b) Briefly explain the digestion of proteins in our body. 5
- (c) Enlist the recommendations put forth by ICMR for meeting fat requirements for adults. 5
4. Explain the following briefly : 5+5+5+5
- (a) Factors influencing the bioavailability of Beta Carotenoids.
- (b) Role of Vitamin E in the protection of PUFA from oxidative damage.
- (c) Coenzyme function of niacin in metabolism.
- (d) Vitamin B₁₂ deficiency in Vegans.
5. (a) "Various nutrients interact with minerals thereby affecting their bioavailability". Justify the statement giving appropriate examples. 5
- (b) What is an "exchange list" ? Give the advantages and limitations of using an exchange list in planning a menu. 3+7
- (c) Present the classification of lifestyles for adults in relational to PAL. 5
6. (a) Briefly explain the effect of maternal anthropometric measurements and dietary intake on foetal outcome. 6

- (b) As a lactation advisor what handy points would you give to mothers regarding infant feeding ? Give the feeding schedule for infancy. 10
- (c) What points would you keep in mind while feeding preschool children ? 4
7. (a) Briefly present the energy, protein, carbohydrate and fat requirements (RDA and type of diet) you would recommend for a sports person. 10
- (b) Briefly describe the macronutrient, micronutrient and fluid/electrolyte requirement for individuals during in high altitudes. 6
- (c) Comment on the calcium intake of astronauts. 4
8. Write short notes on **any four** of the following :
- (a) Mechanism of digestion and absorption of carbohydrates 5+5+5+5
- (b) Factors affecting glycemic index of foods
- (c) Methods of determination of amino acid content in foods
- (d) Regulation of water balance
- (e) Criteria for assessment of Vitamin A status
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