

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

Term-End Examination

June, 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.*

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1. (a) List any four methods used for studying nutrient requirements. 2
- (b) List the components of total energy expenditure in children. 2
- (c) Give the different lifestyle classifications with their PAL value. 3
- (d) Give the components of dietary fibre (classified on the basis of solubility) along with 2 examples each. 2
- (e) Give the factor used for converting nitrogen content of food into protein. 1
- (f) How are trans-fatty acids produced ? Give 2 sources of food. 2
- (g) Name the major fluid compartments of the body, giving its chemical composition, and examples. 3
- (h) What is preformed Vitamin A and provitamin A ? Give examples of rich food sources for each. 3

- (i) RDI for thiamin and riboflavin for adults are _____ mg and _____ mg, respectively/1000 kcal. 2
2. (a) Explain briefly how age, sex and Bioavailability of nutrients influence the nutrient requirement of adults. 10
- (b) What do you understand by the term "Energy Imbalance" ? What are its Consequences ? Enumerate the conditions arising due to energy imbalance and give the classification used to categorize individuals into these conditions. 2+5+3
3. Explain the following briefly : 5+5+5+5
- (a) Effect of dietary fibre on the absorption of nutrients.
- (b) Fermentability or Degradability of carbohydrates in the colon.
- (c) Classification of proteins based on amino acid content.
- (d) Measures to improve the nutritive value of proteins.
4. (a) Classify fatty acids giving their significance and sources. 10
- (b) Briefly describe the role of the following in regulating water balance in our body. 10
- Kidneys
 - Hormones
 - Thirst

5. Enumerate the functions/role of the following nutrients as indicated herewith : 5+5+5+5
- (a) Vitamin A in Visual perception.
 - (b) Vitamin D in mobilization of calcium and phosphorous.
 - (c) Thiamin as co-enzyme in enzyme catalysed reactions.
 - (d) Folate in the DNA synthesis and methylation cycle.
6. (a) Briefly describe the protective role of Vitamin C and selenium as an antioxidant. 5+5
- (b) Differentiate between probiotics and prebiotics, giving examples. Also give the sources and effect of these in our body. 10
7. (a) Briefly describe the physiological changes associated with pregnancy and how they impact on the nutrient requirements during pregnancy. 10
- (b) Enumerate the common nutritional problems of infants and preschoolers. Highlight their consequences. 10
8. Write short notes on **any four** of the following : 5+5+5+5
- (a) Dietary modifications in the diet of elderly.
 - (b) Ergogenic aids for training and competition.
 - (c) Nutrient requirements during emergencies.
 - (d) Types of foods included in the space food systems.
 - (e) Health benefits of polyphenols.
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